Service Manual

TOP NEXT

AD9908187C2

Service Manual

DAB Tuner

- ST-GT1000

Colour
(K).....Black Type
Areas
(EB).....Great Britain.
(EG).....Europe.

Specifications

■ DAB TUNER SECTION

Frequency range:	
(Band Ⅲ);	174–240 MHz (5A–13F or 16 kHz step)
(L band);	1452–1492 MHz (LA–LW or 16 kHz step)
Antenna terminal:	75 Ω unbalance
DAB mode:	Ⅰ, Ⅱ, Ⅲ, Ⅳ
Usable sensitivity:	
(Band Ⅲ);	–15 dBm to –90 dBm
(L band);	–15 dBm to –82 dBm
Total harmonic distortion (THD) at 1 kHz:	0.006 %
S/N at 1 kHz:	92 dB
Frequency response 10–20 kHz:	0 ± 1 dB

■ FM TUNER SECTION

Frequency range:	87.50–108.00 MHz (0.05 MHz step)
Antenna terminal:	75 Ω unbalance

■ AM TUNER SECTION

Frequency range:	522–1629 kHz (9 kHz step)

■ GENERAL

Power supply:	AC 50 Hz, 230 – 240 V
Power consumption:	16 W
at standby;	2 W
Dimensions (W × H × D):	430 × 91.5 × 310 mm
Weight:	3.7 kg

Notes:

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

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1 Before Repair

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1. Turn off the power supply. Using a 10 Ω , 10 W resistor, connect both ends of power supply capacitors (C822, C833) in order to discharge the voltage.
2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respectto supply voltage 230/240 V.

Powersupplyvoltage	AC230V,50Hz	AC240V,50Hz
Consumedcurrent	20-60mA	20-60mA

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2 Protection Circuitry

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The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The functions of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are shorted, or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined bellow:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and ON again.

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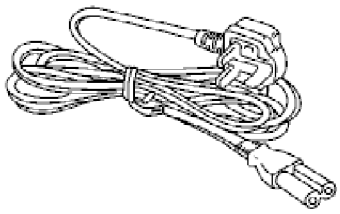
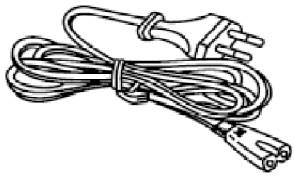
3 Accessories

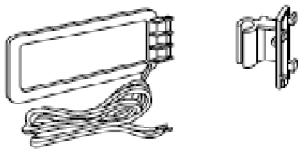
- AC mains lead
  (EB) area : (RJA0053-2X).....1 pc.



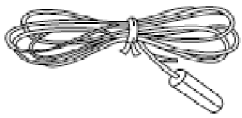
(EG) area : (RJA0019-2K)..... 1 pc.



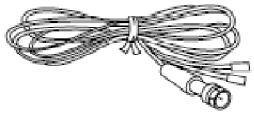
- AM loop antenna
  (RSA0022-J).....1 pc.



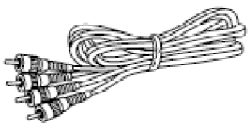
- FM indoor antenna
  (RSA0007).....1 pc.



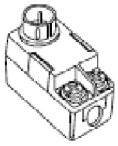
- DAB T antenna
  (RSA0028).....1 pc.



- Stereo phono cable
  (RJL4P004B08).....1 pc.

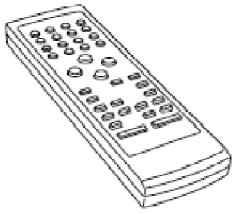


- DAB antenna plug adaptor
  (RFE0014).....1 pc.



- FM antenna plug adaptor for (EB) area only
  (SJP9009).....1 pc.

- Remote control transmitter
  (RAK-STA23WH).....1 pc.



- Batteries
  (R6/LR6, AA, UM-3).....2 pcs.

Note: These are available on sales route.

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4 Caution for AC Mains Lead

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(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark or the BSI mark on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

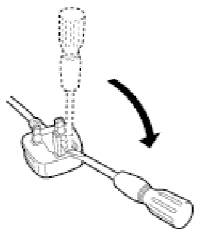
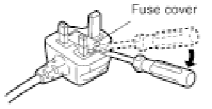


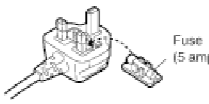
Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

Figure B



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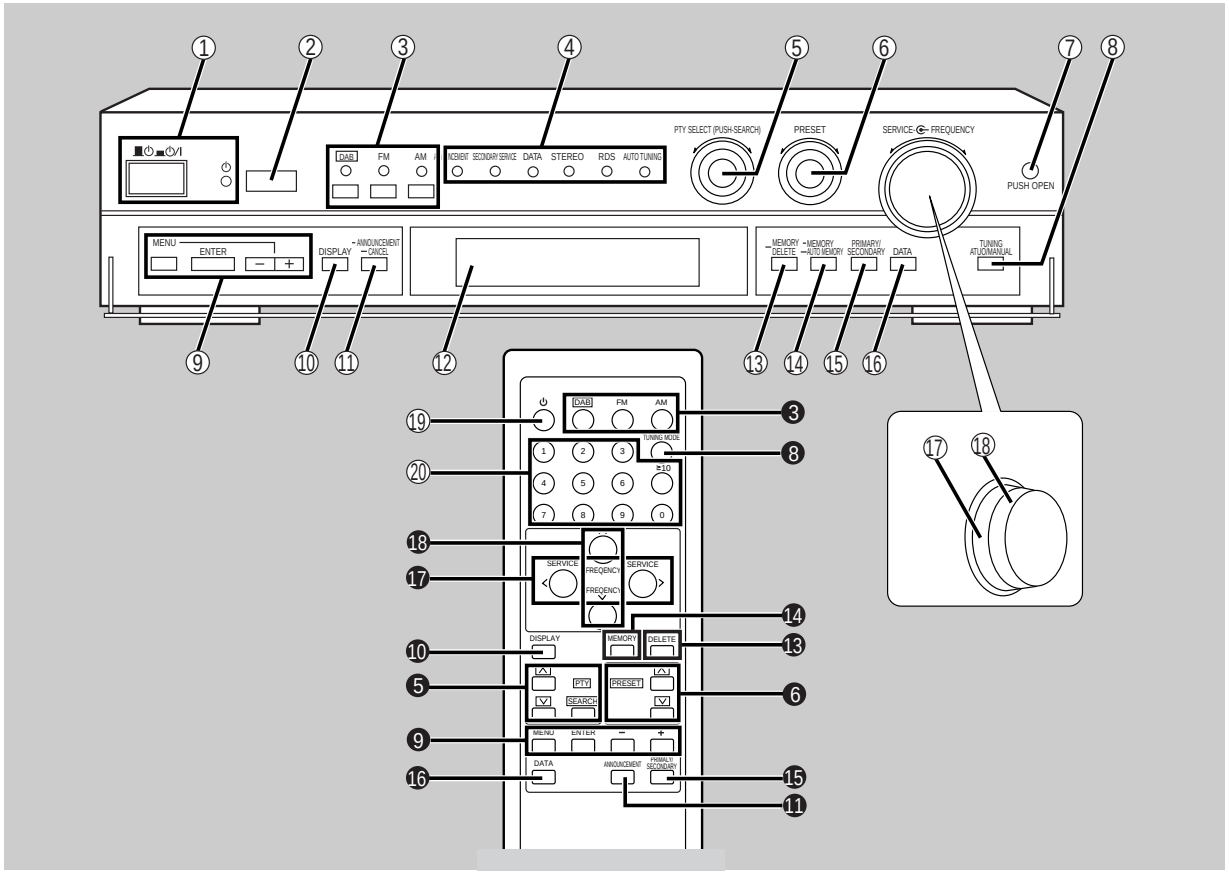
■ Front Panel Controls



Main unit

No.	Name

① **Unit on/off button (■ ⏻ ▬ ⏻/I) and remote standby indicator (⏻)**
Use this button to turn the unit on and off.
■ (off): The unit is in standby mode.
▬ (on): The unit is on. The unit can be turned on and off with the remote control. When the unit is turned off with the remote control it is in remote standby and the indicator lights.
The unit is still using a small amount of power in the standby and remote standby conditions. Standby uses less power.

② **Remote control signal sensor**

③ **Band select buttons (DAB, FM, AM)**

④ **Reception and setting indicators (ANNOUNCEMENT, SECONDARY SERVICE, DATA, STEREO, RDS, AUTO TUNING)**

⑤ **PTY selector (PTY SELECT (PUSH-SEARCH))**

⑥ **Preset channel selector (PRESET)**

⑦ **Panel open button (PUSH OPEN)**
Press this button to open the transparent panel.
Close the panel by hand.

Note

The transparent panel is open in all explanations in this manual.

⑧ **Tuning mode select button (TUNING AUTO/MANUAL)**

No.	Name

⑨ **Setting buttons (MENU, ENTER –, +)**

⑩ **Display mode select button (DISPLAY)**

⑪ **Announcement service standby and cancel button (-ANNOUNCEMENT –CANCEL)**

⑫ **Display**

⑬ **Memory delete button (–MEMORY DELETE)**

⑭ **Memory button (-MEMORY –AUTO MEMORY)**

⑮ **Primary/secondary service select button (PRIMARY/SECONDARY)**

⑯ **Data select mode on/off button (DATA)**

⑰ **DAB service selector (SERVICE)**

⑱ **Tuning knob (FREQUENCY)**

Remote control

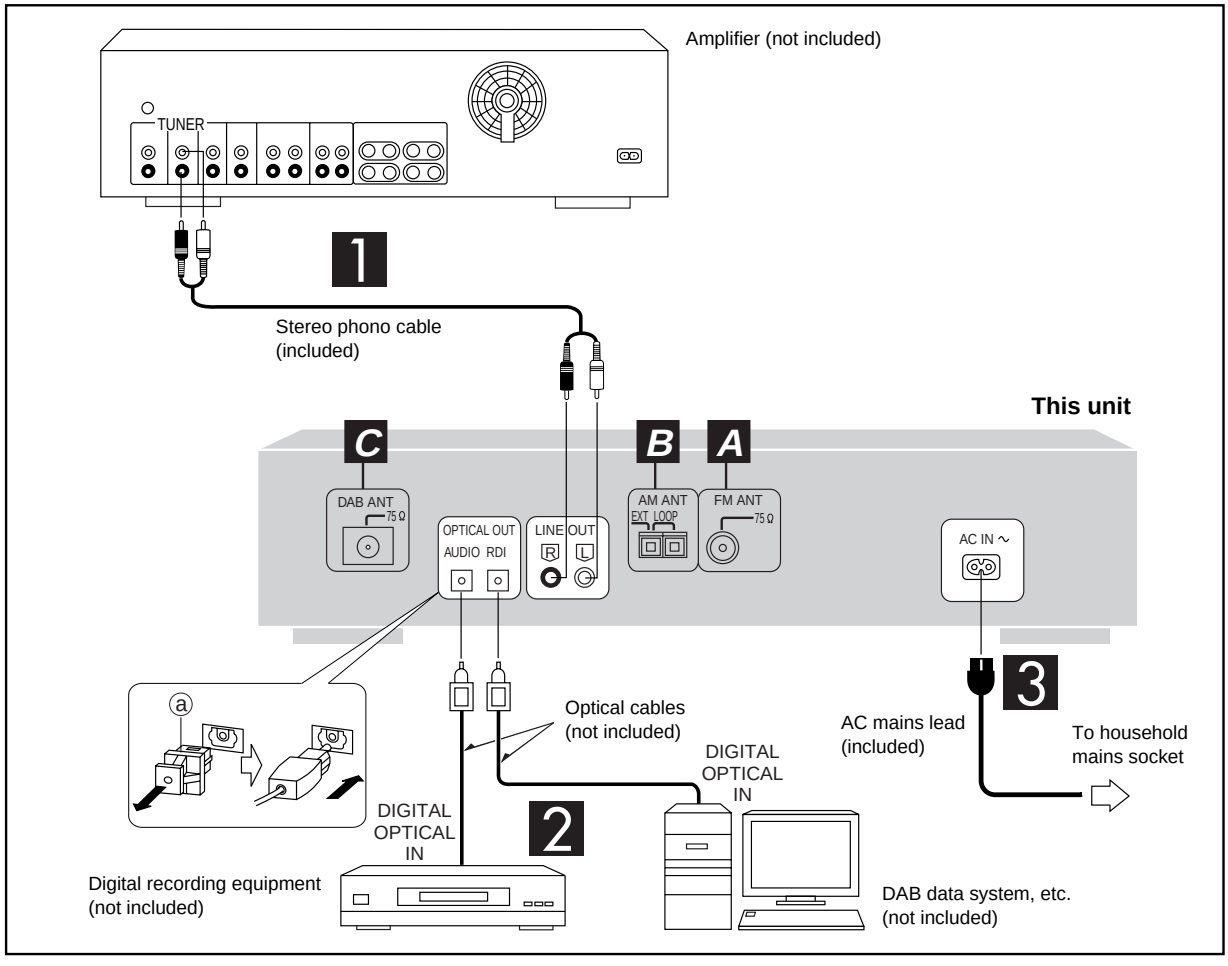
Buttons indicated in black circles (for example : ❸) function in the same way as the controls on the main unit.

No.	Name

⑲ **Unit on/off button (⏻)**
Use this button to turn the unit on and off when the unit's [■ ⏻ ▬ ⏻/I] button is on (▬).

⑳ **Numeric buttons (1–0, ≥10)**

■ Equipment Connections



Make sure that the power supply for all components has been turned off before making any connections.

(United Kingdom only)
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD BEFORE CONNECTION.

1 Connect to an amplifier

Stereo phono cable (included)

White (L)
Red (R)

2

To make a digital recording
Connect this unit to digital recording equipment (MD or DAT deck) through "OPTICAL OUT AUDIO".
To download DAB data
Connect this unit to a DAB data system through "OPTICAL OUT RDI".
(Carefully read the operating instructions of the equipment you intend to connect.)

Dust-protection caps
Remove the dust-protection caps (ⓐ) before connecting the optical cables.

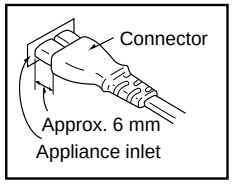
Note

OPTICAL OUT terminals not in use should be covered by a dust-protection cap.

3 Connect the AC mains lead.

Connect the AC mains lead only after all other connections have been made.

Insertion of Connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.

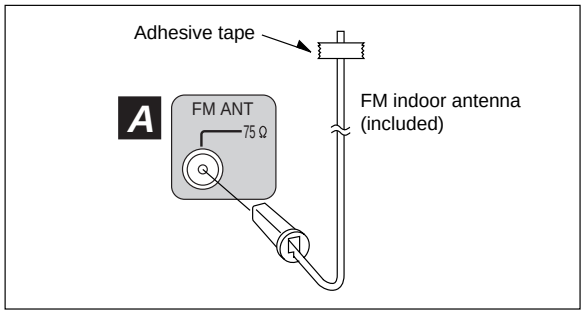


■ Antenna Connections

The included antennas are sufficient under normal conditions.

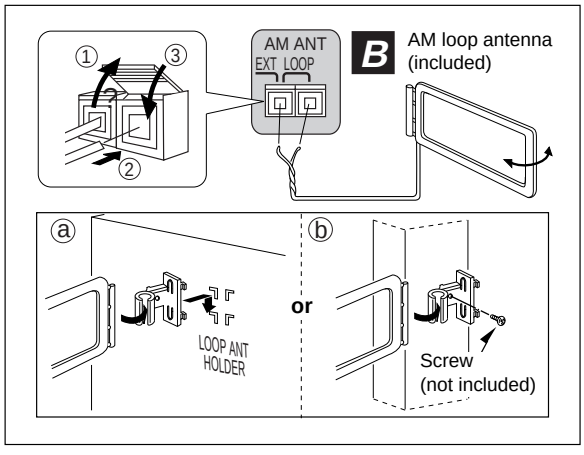
FM indoor antenna (included)

Fix the other end of the antenna where reception is best.



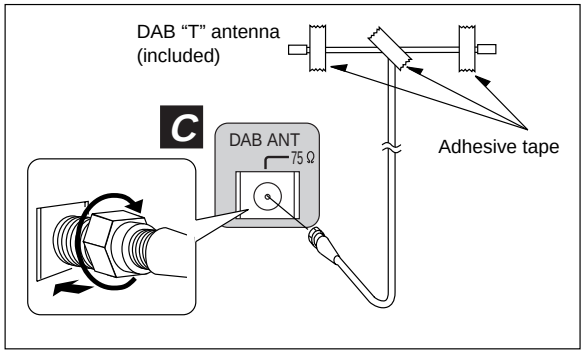
AM loop antenna (included)

Use the holder to attach to the back panel (ⓐ), or use a screw to attach it to a wall or pillar (ⓑ).



DAB "T" antenna (included)

The cross bar of the T must be horizontal and kept firmly stretched. Find a position with good reception.
There is a function on the unit to check signal quality.

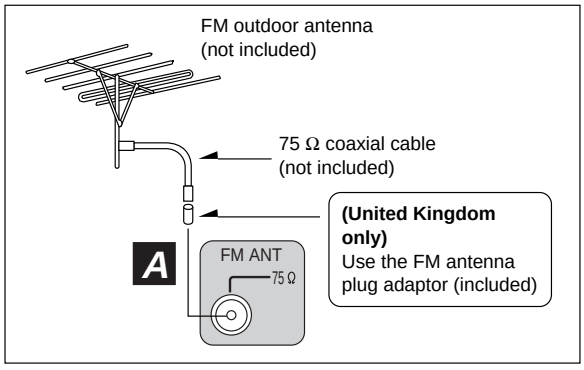


Installing outdoor antennas

FM outdoor antenna (not included)

Note

- Disconnect the FM indoor antenna.

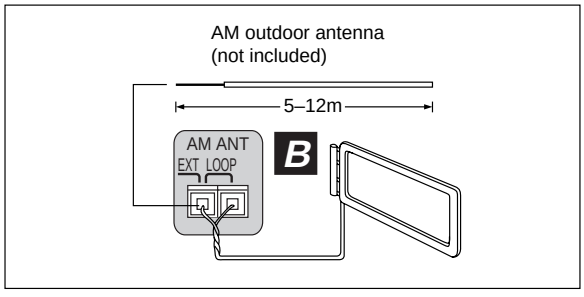


AM outdoor antenna (not included)

Run a piece of vinyl wire horizontally across a window or other convenient location.

Note

- Leave the loop antenna connected.
- Disconnect the antenna when the unit is not in use. Do not use the antenna during an electrical storm.



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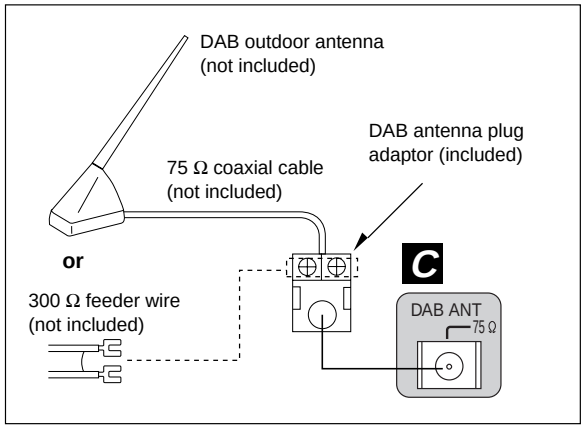
DAB outdoor antenna (not included)

The illustration shows an example of installation.
The antenna plug adaptor (included) does not have to be used if the plug on the antenna cable is suitable.

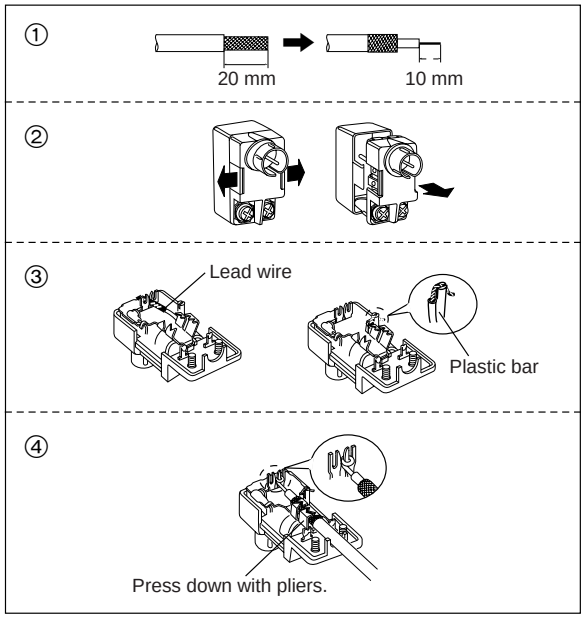


How to use the DAB antenna plug adaptor (included)

Two types of wire are most commonly used for connection from the antenna: 300 Ω parallel feeder wire or 75 Ω coaxial cable. For best resistance to outside interference, use 75 Ω coaxial cable.

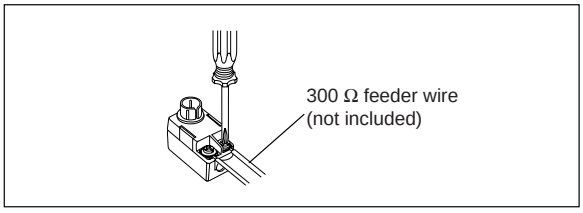
To connect a 75 Ω coaxial cable

① Remove a piece of the outer vinyl insulator.
② Carefully pull the tabs apart to remove the cover.
③ Remove the lead wire and clamp it with the plastic bar.
④ Install the coaxial cable.
Clamp the cable conductor, and wind it on so that it doesn't contact anything else.
⑤ Attach the cover.



To connect a 300 Ω feeder wire

Loosen the screws, connect the wires, and tighten the screws to secure the connection.



■ DAB and RDS

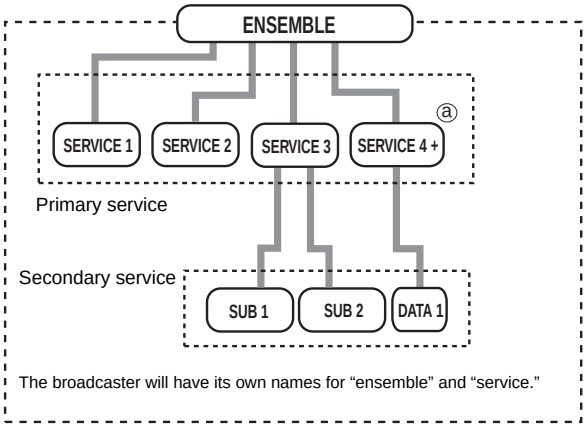
What is DAB?

DAB stands for digital audio broadcasting. It is a new form of radio that is broadcast digitally. Unlike regular analog broadcasting, digital radio deteriorates less, and is thus able to provide quality sound close to that of a CD.

DAB structure

Tuning for DAB differs from the method used for analog radio. Analog stations all broadcast on different frequencies, even if it is the same company doing the broadcasting. With DAB however, it is possible to broadcast a number of services on the same frequency. So once you have tuned to a station, you can easily switch between the different services that station offers.
In DAB terminology, this station is called an “ensemble,” and the services provided by it are called, simply, “services.”

An example of DAB structure



The broadcaster will have its own names for “ensemble” and “service.”

As shown in the chart, a single primary service can contain multiple secondary services. This means, for example, that commentary on sports events from different areas can all be broadcast at once.
There are also services that offer data, graphics that can be processed by computer for example, that you can download and view. In the example above, you can make use of DATA 1 while you are listening to SERVICE 4+ (ⓐ).

Other features and DAB functions available with this unit

DAB use digital broadcasting to provide other useful features. This unit uses the following functions to make use of them.

Announcement
Periodic broadcast services, for example news and traffic reports. The announcement function on this unit allows you to program the unit to switch automatically to these announcements when they start. You are able to choose the variety and language of the announcements.

Text display
This unit is can display these types of text:
Ensemble label: the name of the ensemble
Service label: the name of the service
Dynamic label: information about the broadcast
PTY: program type

This text can only be displayed if the broadcaster is providing it.

PTY search
You are able to make a search for a particular type of program if the broadcaster is providing the signal.

Note
Some characters received as DAB/RDS text can not be displayed correctly on this unit.

What is RDS?

RDS stands for radio data system. It is extra information that is attached to an FM broadcast by the broadcaster. This unit can make use of text and PTY data if provided.

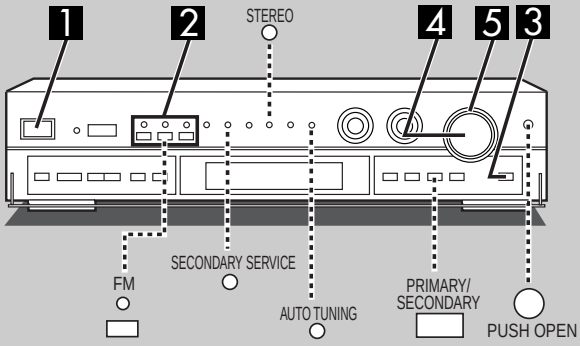
This unit’s RDS functions

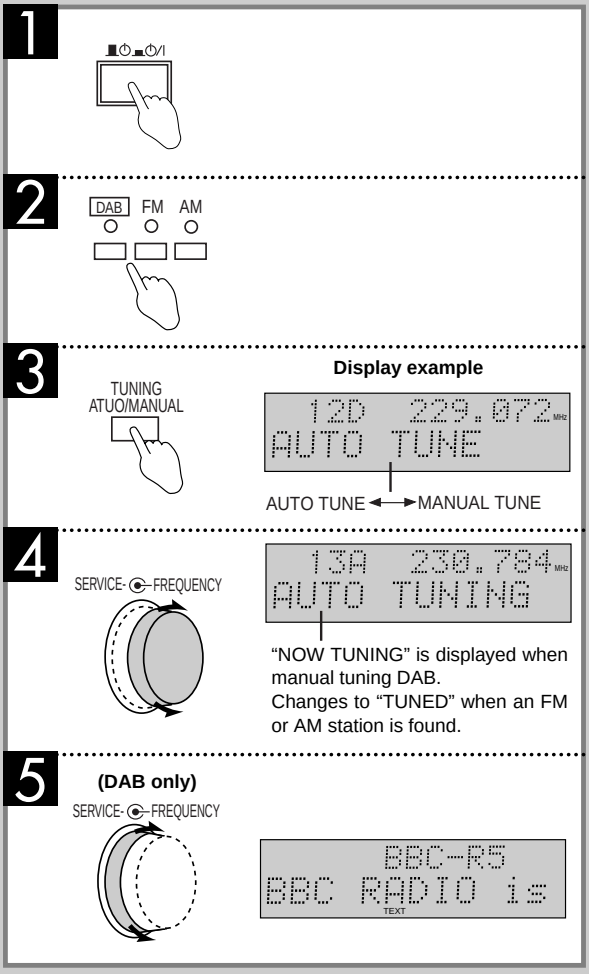
Text display
This unit is can display these types of RDS text:
PS: the name of the station
PTY: program type
RT: information about the broadcast (the name of the song, artist, etc.)

This text can only be displayed if the broadcaster is providing it.

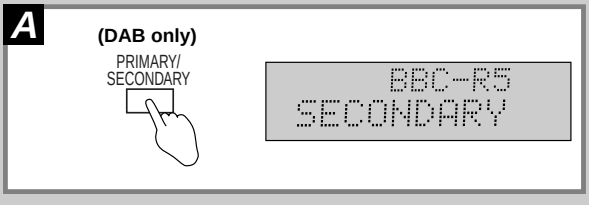
PTY search
This functions the same as the DAB PTY search function.

■ Tuning





The "0" display indicates zero.



Use to tune to DAB services and FM and AM radio stations.

Preparation:
Press [PUSH OPEN] to open the front panel.

1 Press [■ ⏻ ▬ ⏻/I].
The unit comes on.

2 Press [DAB], [FM], or [AM] to select the band.

3 Press [TUNING AUTO/MANUAL] to select the method of tuning.

AUTO TUNE: Enables automatic tuning to stations with a strong enough signal. (The "AUTO TUNING" indicator lights.)
MANUAL TUNE: Select this method if AUTO tuning cannot tune to a particular station.

4 Turn [FREQUENCY] to tune to a broadcast.
Clockwise: increases frequency
Counterclockwise: reduces frequency

In AUTO mode: When the dial is turned the frequency starts changing automatically and stops when a broadcast is found.
In MANUAL mode: The frequency changes when the dial is turned.

The "STEREO" indicator lights during reception of stereo broadcasts.

When a DAB ensemble is found, the ensemble's number (e.g. 13A) is displayed in the top left corner of the display.

5 (DAB only)
Turn [SERVICE] to select a service.
You can select the primary services within the current ensemble.
The "SECONDARY SERVICE" indicator lights when a secondary service is available (see "Tuning to secondary services").
"DATA" lights when data services are available (see "Using data services").

Tuning to secondary services (DAB) A

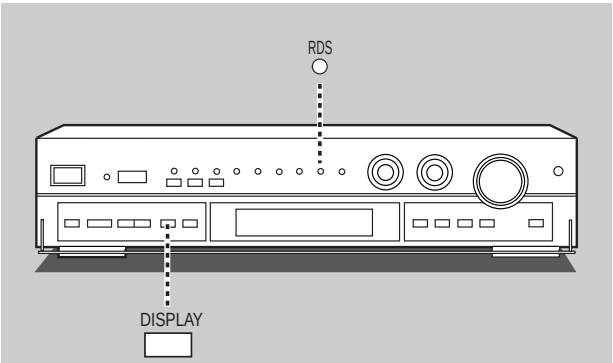
When the "SECONDARY SERVICE" indicator is on
Press [PRIMARY/ SECONDARY].
The secondary services are selected each time the button is pressed. The primary service is returned to after the last secondary service.

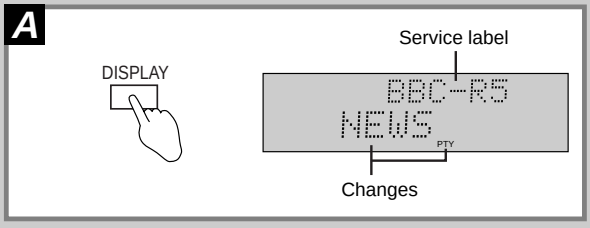
If noise is excessive in FM

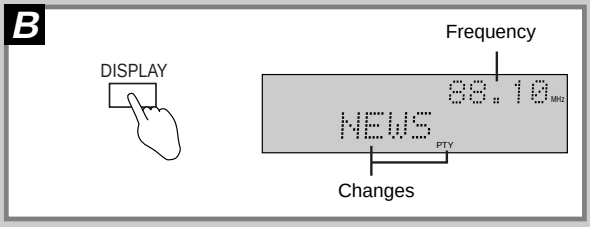
Press [FM].
This mode improves sound quality if there is a lot of noise but broadcasts are heard in monaural. ("M" lights on the display.)
Press again to cancel.

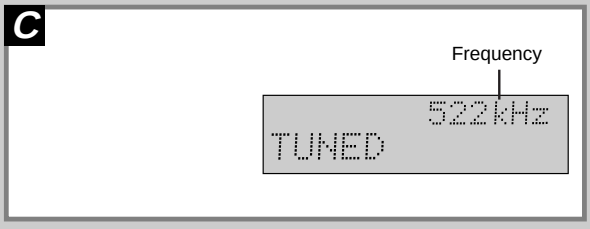
After use
Press [■ ⏻ ▬ ⏻/I] to turn the unit off.

■ The Display









Actual displays depend on the broadcast.

You can change the display during reception of DAB and FM RDS broadcasts to view the different types of information.
Preset channel numbers are displayed whenever preset tuning is used.

DAB A

The service label is shown on the upper line.
The lower line changes in the following order each time [DISPLAY] is pressed:
① Dynamic label (“TEXT” lights)
② PTY (“PTY” lights)
③ Ensemble label and frequency block (“ENSEMBLE” lights)

“NO SERVICE” is displayed when the service isn’t currently broadcasting.
When services end, “SERVICE END” (for primary services) or “2ND SVC END” (for secondary services) is displayed.

FM B

The frequency is shown on the upper line.
“RDS” lights during reception of RDS broadcasts and the lower line changes in the following order each time [DISPLAY] is pressed:
① PS (“PS” lights)
② PTY (“PTY” lights)
③ RT (“TEXT” lights)

There is no change if RDS is not being received.

AM C

The frequency is displayed.

PTY (Program Type)

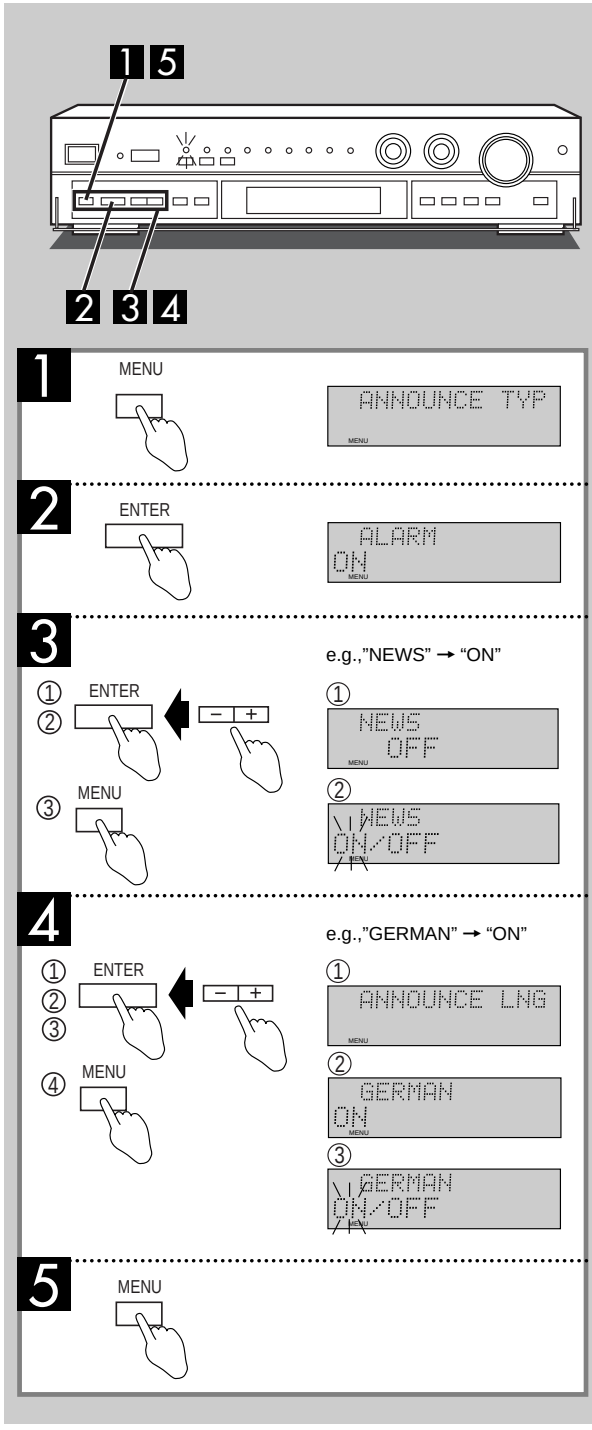
NEWS	News
AFFAIRS	Current affairs
INFO	Information
SPORT	Sport
EDUCATE	Education
DRAMA	Drama
CULTURE	Cultural
SCIENCE	Science
VARIED	Varied
POP M	Pop music
ROCK M	Rock music
M. O. R. M	Easy listening
LIGHT M	Light classical
CLASSICS	Serious classical
OTHER M	Other music
WEATHER	Weather & meteorology

FINANCE	Finance
CHILDREN	Children’s programs
SOCIAL A	Social affairs
RELIGION	Religious
PHONE IN	Phone In
TRAVEL	Travel & tourism
LEISURE	Leisure & hobby
JAZZ	Jazz music
COUNTRY	Country music
NATIONAL	National music
OLDIES	Oldies music
FOLK M	Folk music
DOCUMENT	Documentary
TEST	Test broadcast (RDS only)
ALARM	Alarm (RDS only)

Note

This unit does not have EBS (Emergency Broadcast System) which tunes automatically into emergency broadcasts when they begin.

■ DAB Functions



Using the announcement function

Program the unit to switch automatically to announcements when they start. You are able to choose the variety and language of the announcements. The previous broadcast resumes when the announcement is finished.

See the chart at the foot of the page for the types of announcements and languages.

Programming the type of announcement and language

Perform these steps within about 30 seconds of each other.
During DAB reception

1 **Press [MENU].**
"ANNOUNCE TYP" is displayed.

2 **Press [ENTER]**
"ALARM" is displayed.

3 **Turning the announcement types on and off.**
At the time of purchase only "ALARM" is on.
① Press [–] or [+] to display the announcement type you want to turn on or off and press [ENTER].
② Press [–] or [+] so either "ON" (to turn the announcement on) or "OFF" (to turn the announcement off) flashes and press [ENTER].
To program other types of announcements, repeat ① and ②.
③ Press [MENU].
"ANNOUNCE TYP" is displayed again.

4 **Select the language.**
All languages are on at the time of purchase.
① Press [+] to display "ANNOUNCE LNG" and press [ENTER].
② Press [–] or [+] to display the language you want to turn on or off and press [ENTER].
③ Press [–] or [+] so either "ON" (to turn the language on) or "OFF" (to turn the language off) flashes and press [ENTER].
To program other languages, repeat ② and ③.
④ Press [MENU].
"ANNOUNCE LNG" is displayed again.

5 **Press [MENU].**
The previous display is restored.

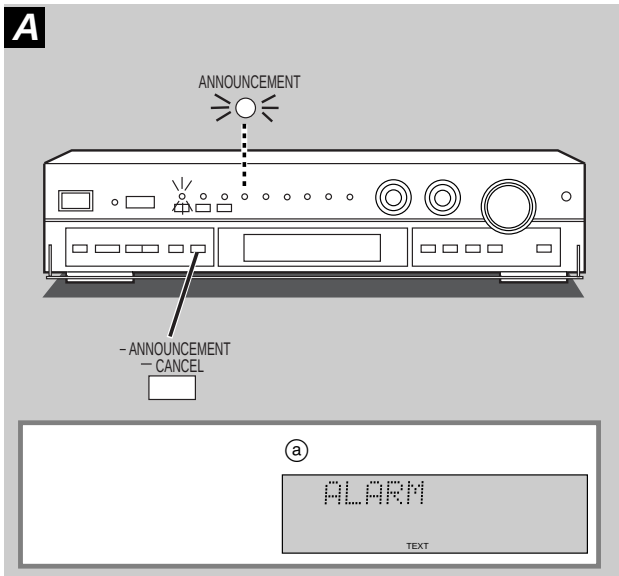
For your reference
Press [MENU] at any time to return to the previous step.
You can return to the original display by selecting "EXIT" in the "ANNOUNCE TYP" and "ANNOUNCE LNG" menus.

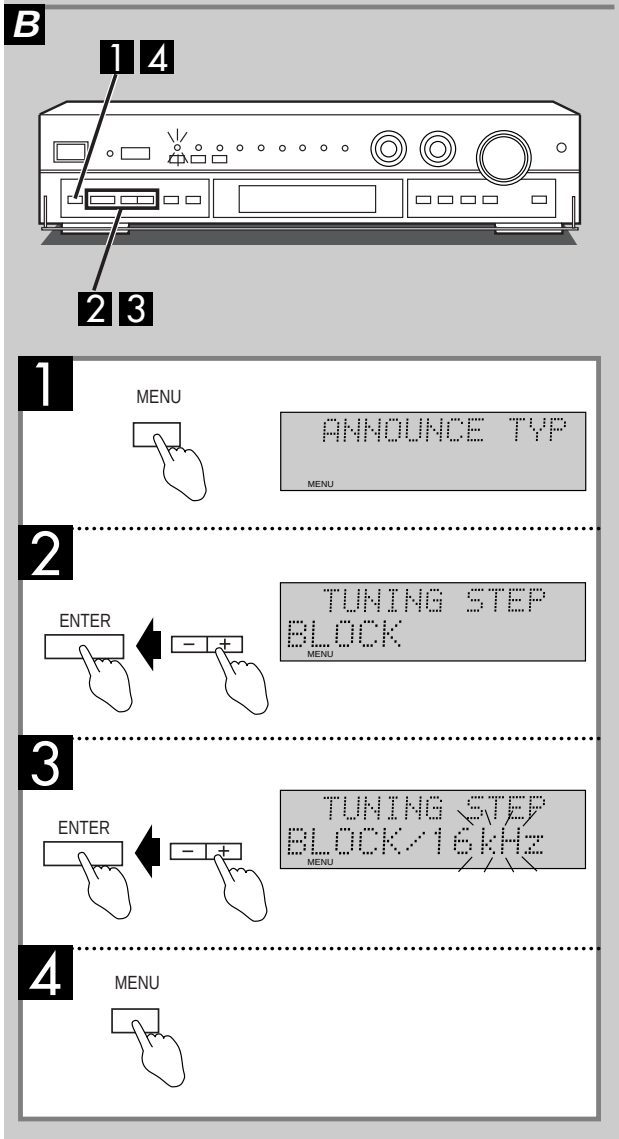
Announcement type

ALARM	Alarm
TRAFFIC	Traffic News
TRAVEL	Transport News
WARNING	Warning
NEWS	News
WEATHER	Weather
EVENT	Events
SPECIAL	Special Events
RAD INF	Radio Information
SPORTS	Sports News
FINANCE	Finance News

Announcement languages

DUTCH
ENGLISH
FRENCH
GERMAN
ITALIAN
POLISH
SPANISH
SWEDISH
OTHER (Languages other than those listed)





Using announcement services A

While listening to DAB

Press and hold [-ANNOUNCEMENT –CANCEL] for about two seconds.

The “ANNOUNCEMENT” indicator lights and the unit is ready to receive announcement services.

When an announcement service you turned on in the settings steps is received, the unit automatically plays that announcement (ⓐ).
The “ANNOUNCEMENT” indicator flashes.

To cancel

Press and hold [-ANNOUNCEMENT –CANCEL] for about two seconds so the “ANNOUNCEMENT” indicator goes out.
This function is also canceled when the unit is turned off.

Returning to normal programming during an announcement

Press [-ANNOUNCEMENT –CANCEL].
Normal programming is played until an announcement starts.

Note

- Alarm announcements start as soon as you tune to a station, but it takes about 10 seconds for other announcements to start.
- Irrespective of any settings you made, the unit will be compelled to switch to some alarm announcements.
- Announcements that do not have a language signal attached to them may be played irrespective of language settings.
- Cancel the announcement function if you are recording a program.

Changing the tuning step B

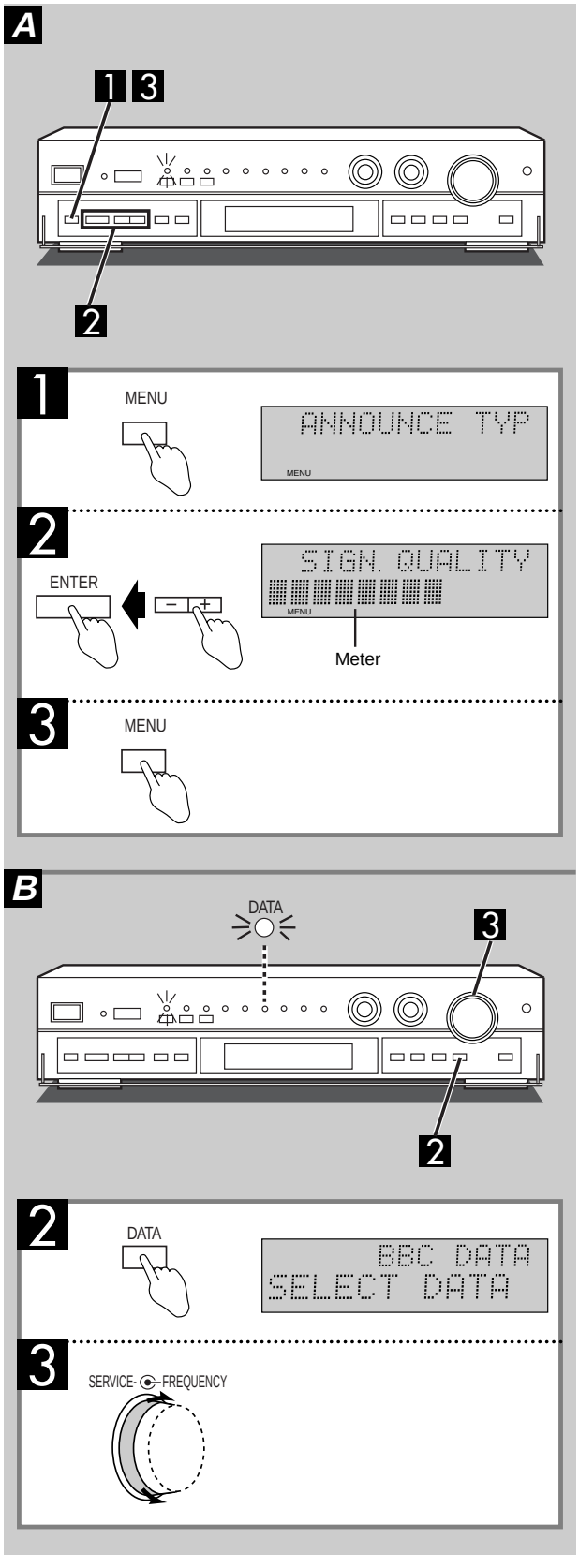
DAB tuning is usually done in blocks (e.g., 13A), but if necessary it can be done in 16 kHz steps.
Perform these steps within about 30 seconds of each other.

While listening to DAB

1. **Press [MENU].**
2. **Press [+] twice to display “TUNING STEP” and press [ENTER].**
3. **Press [–] or [+] so “16 kHz” flashes and press [ENTER].**
4. **Press [MENU].**
   The previous display is restored.

To restore the previous step

Select “BLOCK” in step 3 and press [ENTER].



Checking DAB reception quality

A

The function allows you to check reception quality to improve the position of the antenna.

While listening to DAB.

1 **Press [MENU].**

2 **Press [+] three times to display "SIGN. QUALITY".**
Change the position of the antenna so the meter lengthens.

3 **Press [MENU].**
The previous display is restored.

Using data services

B

Data is output through the "OPTICAL OUT RDI" terminal.
Read the instructions for your software and hardware for details on how to download data services.
Perform these steps within about 30 seconds of each other.

1 **Tune to an ensemble containing data services.**
The "DATA" indicator lights.

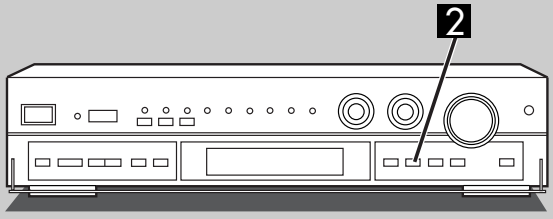
2 **Press [DATA].**
The unit enters the data selection mode and the "DATA" indicator starts flashing.

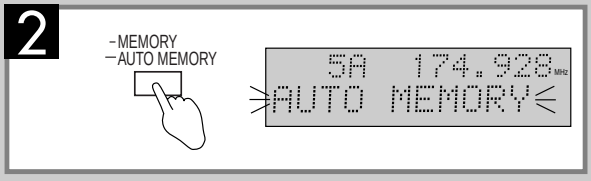
3 **Turn [SERVICE] to select the data service.**

To restore the previous broadcast
Press [DATA].

For your reference
You can continue to enjoy audio services while downloading data services.

■ Preset Tuning





Put DAB services and FM and AM stations into this unit's preset channels to make tuning simple.
There are two methods of preset tuning; auto, where the unit presets all the services and stations it can receive automatically, and; manual, where you can select the services and stations to preset.

Available preset channels
DAB: 49 FM: 29 AM: 19 (Total: 97 preset channels)

Channel contents
DAB: In auto preset mode - primary audio services and the frequency block
In manual preset mode - primary audio and data services and the frequency
FM and AM: frequency

Note
The service or station occupying a channel is erased if another service or station is preset in that channel.
DAB secondary services cannot be preset.

Auto presetting

Any stations currently broadcasting are preset automatically.
When presetting DAB, all primary audio services currently broadcasting within an ensemble are preset.

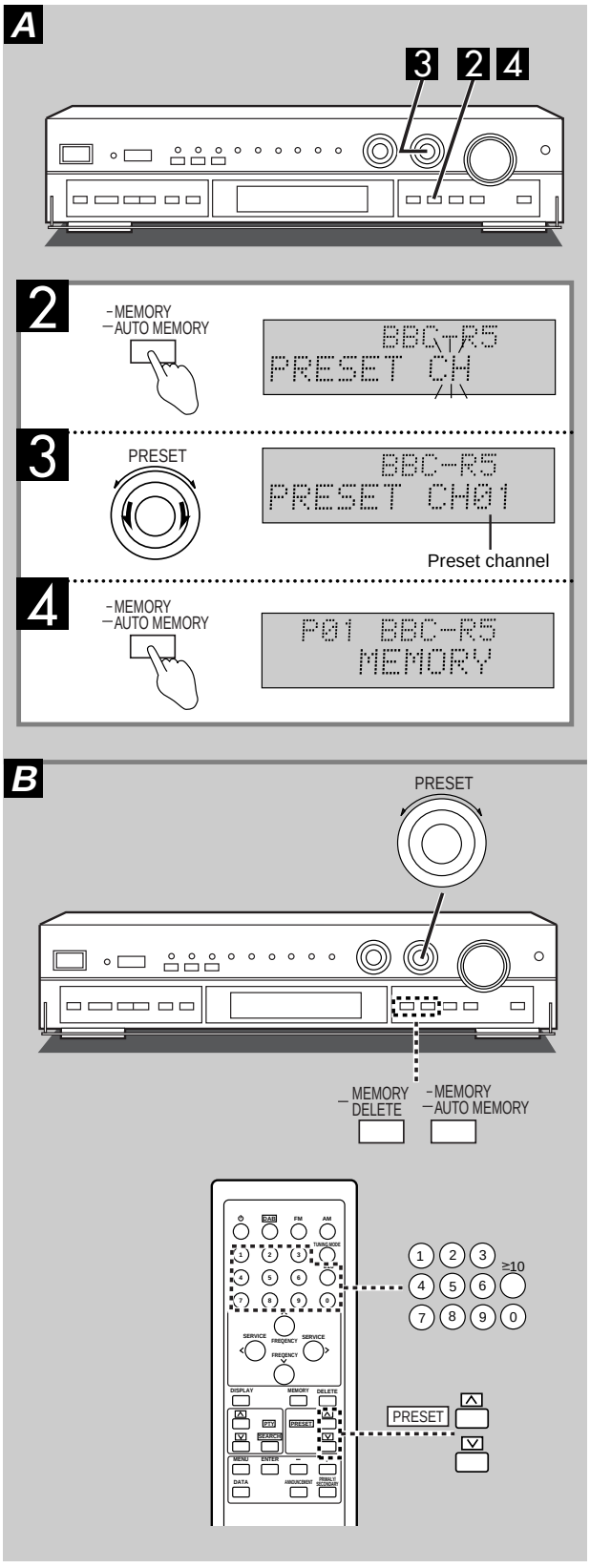
1 Switch to the band you want to preset and tune to the frequency you want to start presetting.
Auto preset scans the frequencies in ascending order, putting the stations and services into channels as they are found.

2 Press and hold [-MEMORY –AUTO MEMORY] for about two seconds.
Release when the message "AUTO MEMORY" appears on the display. Auto presetting starts.

The process stops either when all the channels are full or when the highest frequency in the band is reached. The last service or station to be preset is then played and its information (service label or frequency) is displayed.

To cancel auto presetting
Press [-MEMORY –AUTO MEMORY].

Note
- Some channels may be left free if there are few services or stations currently broadcasting.
- You can use manual presetting later to add services or stations that weren't preset automatically for some reason.
- If you start auto presetting for a second time in a band, all channels in that band are cleared.



Manual presetting

A

This allows you to preset the services and stations you want in the channels you want.

1 **Tune to the broadcast.**
You cannot preset in DAB if nothing is being received. (“NO SIGNAL” or “NO SERVICE” is displayed.)

2 **Press [-MEMORY –AUTO MEMORY].**

Note
Do not hold the button down or else auto presetting will start.

3 **Turn [PRESET] to select the channel to put the broadcast into.**
You can also select the channel from the remote control with [PRESET (∧ or ∨)] or the numbered buttons (➡ “Selecting channels”).
“∗” indicates a channel has already been used.

4 **Press [-MEMORY –AUTO MEMORY].**
The broadcast is preset and the previous display is restored in about 2 seconds.

Repeat steps 1 to 4 to preset other broadcasts.

Selecting channels

B

Select a band
Turn [PRESET] to select the channel.
Channels not containing a broadcast are skipped.

You can also select the channel from the remote control with [PRESET (∧ or ∨)] or the numbered buttons.
For channels 1 to 9, press the corresponding number.
For channels 10 or over, press [≥10], then the two digits.
e.g. To select channel 25, [≥10] ➞ [2] ➞ [5]

For your reference (DAB only)
If nothing is currently being broadcast in the selected channel, “NO SIGNAL” is displayed. Press [DISPLAY] at this time to show the ensemble’s frequency for about 2 seconds.

Copying and deleting channels

B

You can move the broadcast preset into channel 10, for example, to channel 1.

To copy

Select the channel and
1. Press [-MEMORY –AUTO MEMORY].
2. Select the target channel.
3. Press [-MEMORY –AUTO MEMORY].

The original channel remains unchanged.

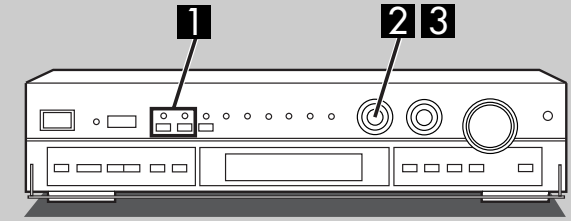
To delete

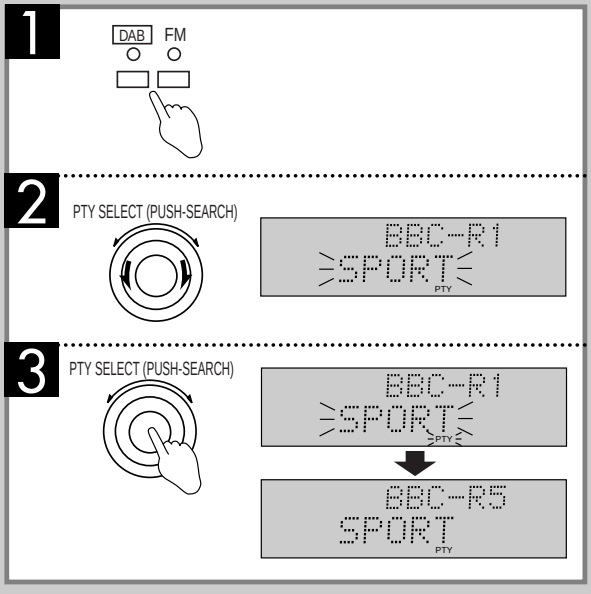
Select the channel and
Press and hold [–MEMORY DELETE] for about two seconds until “DELETE” is displayed.

Note

The channels remain in the memory even if the unit is disconnected from the power source. Temporary malfunction may cause the channels to be erased. Preset the channels again if this occurs.

■ PTY Search with DAB and RDS





You can use the PTY signals included in DAB and RDS broadcasts to find particular types of programs.

Note

- **PTY search is performed on preset channels. Do the presetting procedures before continuing.**
- PTY search does not work for secondary services.

1 **Press [DAB] or [FM].**

2 **Turn [PTY SELECT (PUSH-SEARCH)] to select the program type.**

For your reference
If the program type you select is contained with the DAB ensemble currently playing, "∗" appears beside the PTY display.

3 (Within 10 seconds)
Press [PTY SELECT (PUSH-SEARCH)].
The PTY search starts. The search stops when the selected program type is found and the broadcast is played.

After the broadcast switches, the PTY display remains for about 5 seconds. You can search for another program of the same type within this time by pressing [PTY SEARCH (PUSH-SEARCH)] again.

Stopping the search
Turn [PTY SELECT (PUSH-SEARCH)].
The original broadcast is played.

If the type of program isn't found
A message, for example "NO SPORT", appears on the display for about 5 seconds and the original broadcast is played.

For your reference
If you are listening to a DAB service or RDS program and the PTY display is on you can begin an immediate search for a program of the same type simply by pressing [PTY SELECT (PUSH-SEARCH)].

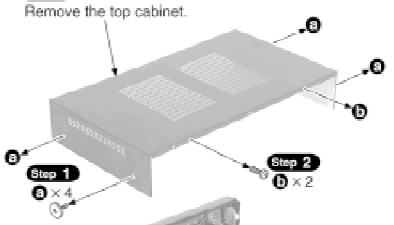
6 Operation Checks and Component Replacement/ Procedures

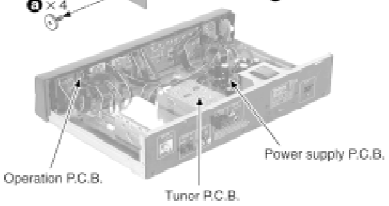
NOTE 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

1. Checking for the operation P.C.B., tuner P.C.B., power supply P.C.B.

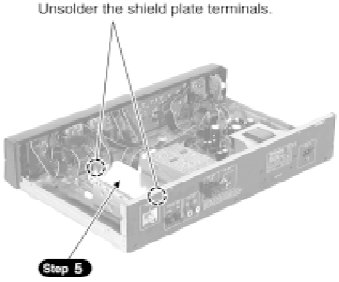
Step 3
Remove the top cabinet.





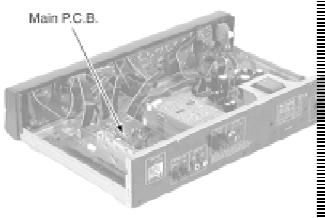
· **Check the operation P.C.B., tuner P.C.B., power supply P.C.B. as shown above.**

Step 4
Unsolder the shield plate terminals.



Step 5
Remove the shield plate (A).

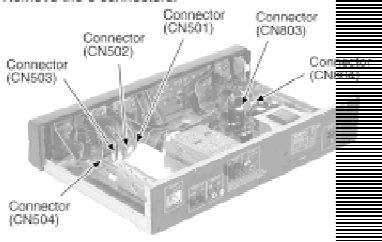
· **Check the main P.C.B. as shown below.**



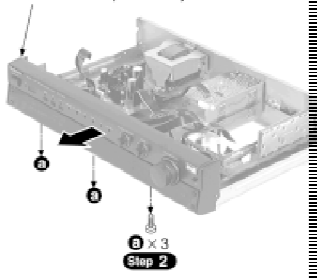
To remove each P.C.B.

· Follow the Step 1 ~ Step 3 of the item 1.

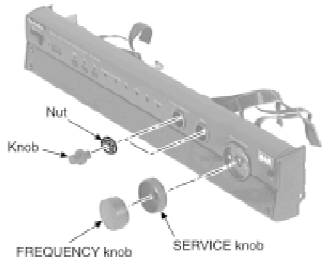
Step 1
Remove the 6 connectors.



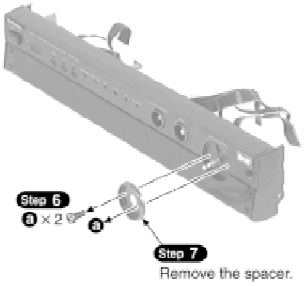
Step 3
Pull out the front panel ass'y.



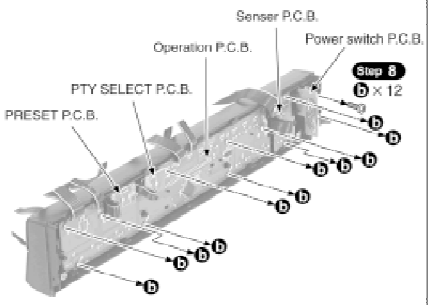
Step 4
Pull out the 2 knobs and 2 nuts.



Step 5
Pull out the FREQUENCY knob, and then pull out the SERVICE knob.



Remove the spacer.



Step 9
Remove the operation P.C.B., PTY SELECT P.C.B., PRESET P.C.B., senser P.C.B. and power switch P.C.B..

TOP PREVIOUS NEXT

7.1 Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S401:
  Setting switch (MENU -)
- S402:
  Setting switch (MENU+)
- S403:
  Memory delete switch (-MEMORY DELETE)
- S404:
  Display mode select switch (DISPLAY)
- S405:
  Memory switch (-MEMORY—AUTO MEMORY)
- S406:
  Announcement service stand by and cancel switch (-ANNOUNCEMENT—CANCEL)
- S407:
  Primary/secondary service select switch (PRIMARY/SECONDARY)
- S408:
  Band select switch (DAB)
- S409:
  Data select mode on/off switch (DATA)
- S410:
  Band select switch (FM)
- S411:
  Tuning mode select switch (TUNING AUTO/MANUAL)
- S412:
  Band select switch (AM)
- S413:
  Setting switch (ENTER)
- S414:
  Setting switch (MENU)
- S801:
  Unit on/off switch (/I)
- VR413:
  DAB service select VR/Tuning VR (SERVICE/FREQUENCY)
- VR414:
  PTY select VR (PTY SELECT)
- VR415:
  Preset channel select VR (PRESET)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on theinternal impedance of the DC circuit tester.
  - No mark
    : FM
  - ( )
    : AM

- < >
: DAB

- Important safety notice:
Components identified by⚠ ; mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturers specified parts shown in the parts list.

- Caution!
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

- Voltage and signal line

-
: Positive voltage line
-
: Negative voltage line
-
: FM signal line
-
: FM OSC signal line
-
: AM signal line
-
: AM OSC signal line
-
: DAB signal line

TOP PREVIOUS NEXT

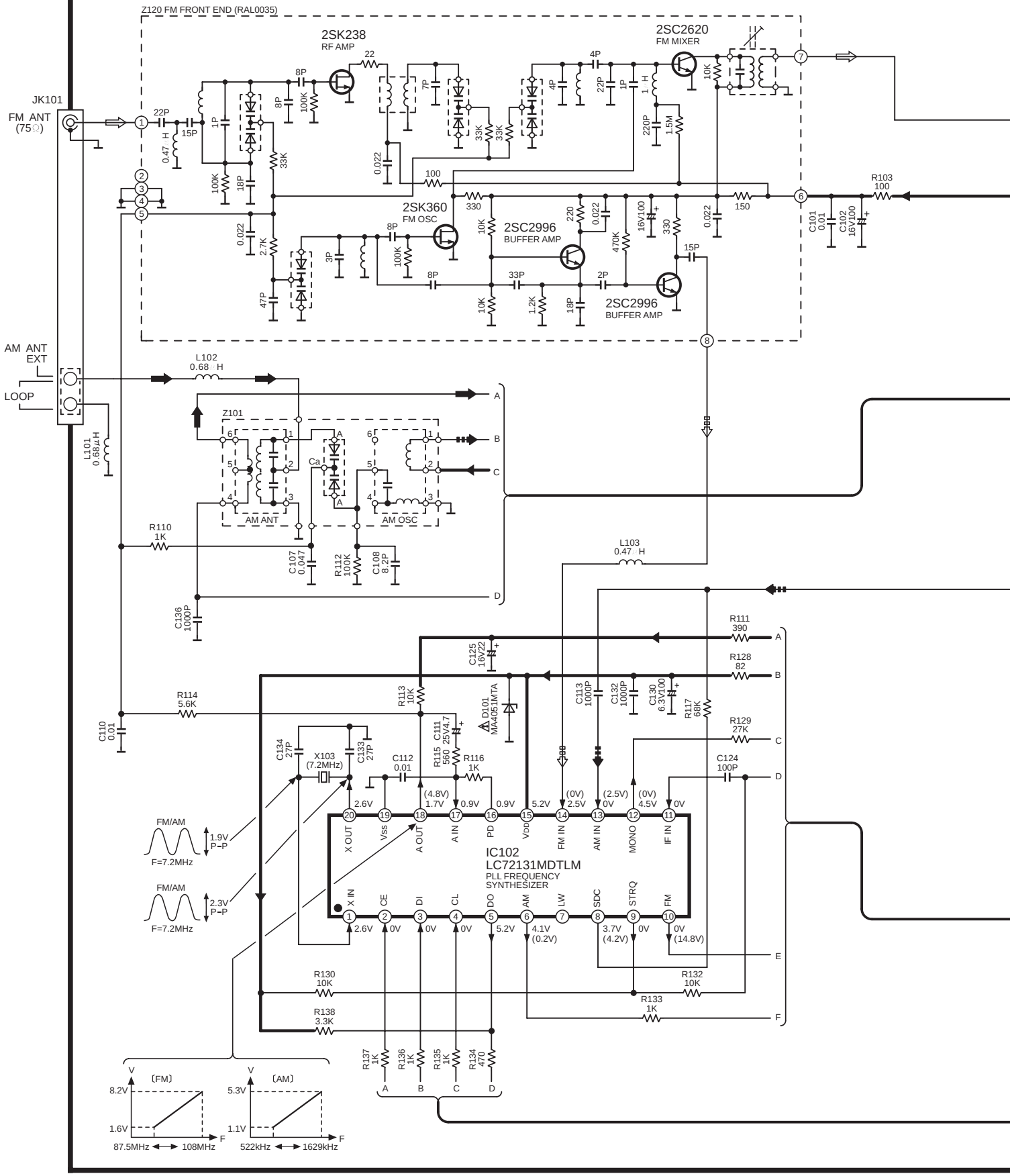
SCHEMATIC DIAGRAM−1

Note: The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM−1" or "SCHEMATIC DIAGRAM−2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

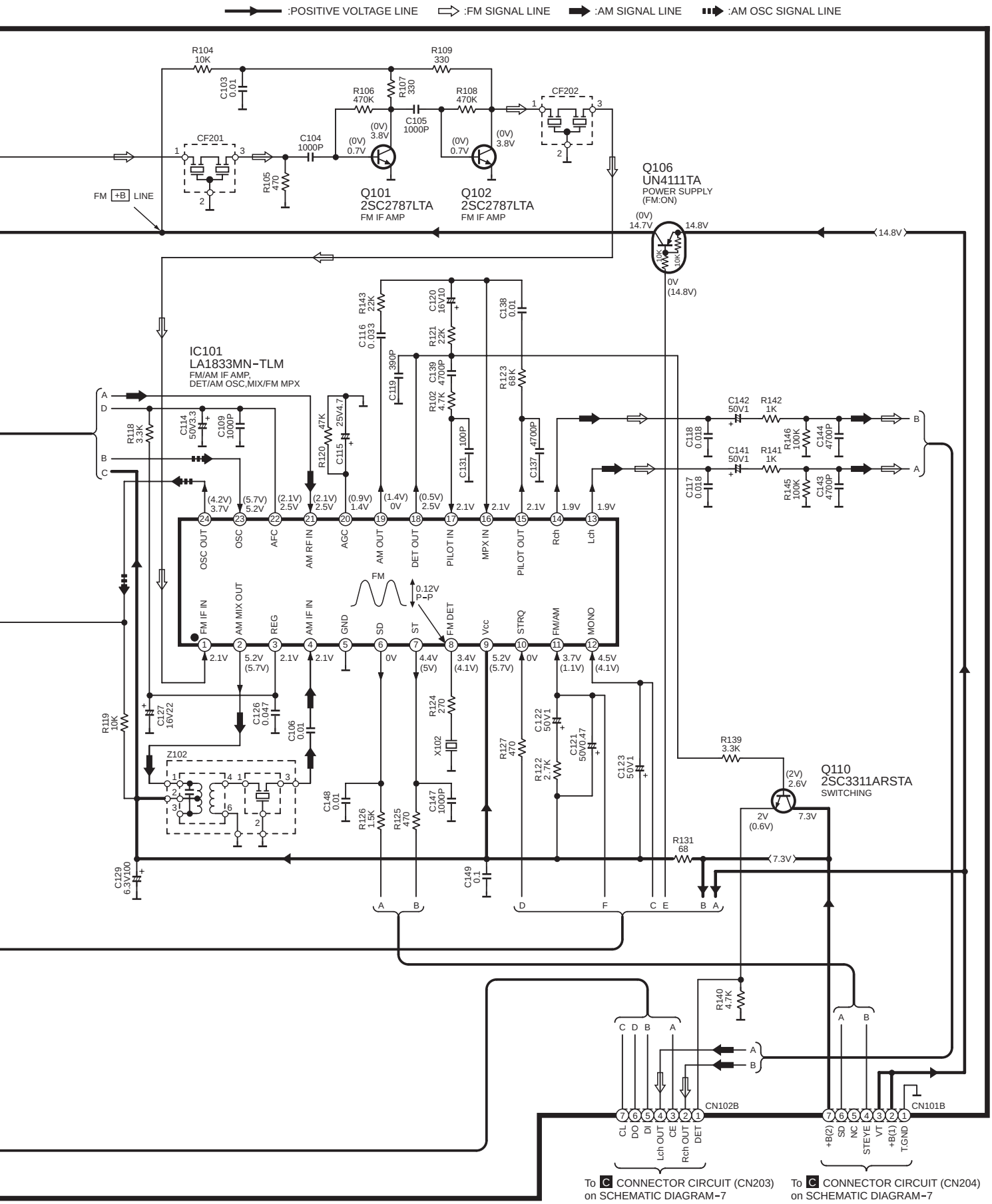
:FM SIGNAL LINE :AM SIGNAL LINE

:POSITIVE VOLTAGE LINE :FM OSC SIGNAL LINE :AM OSC SIGNAL LINE

A TUNER CIRCUIT



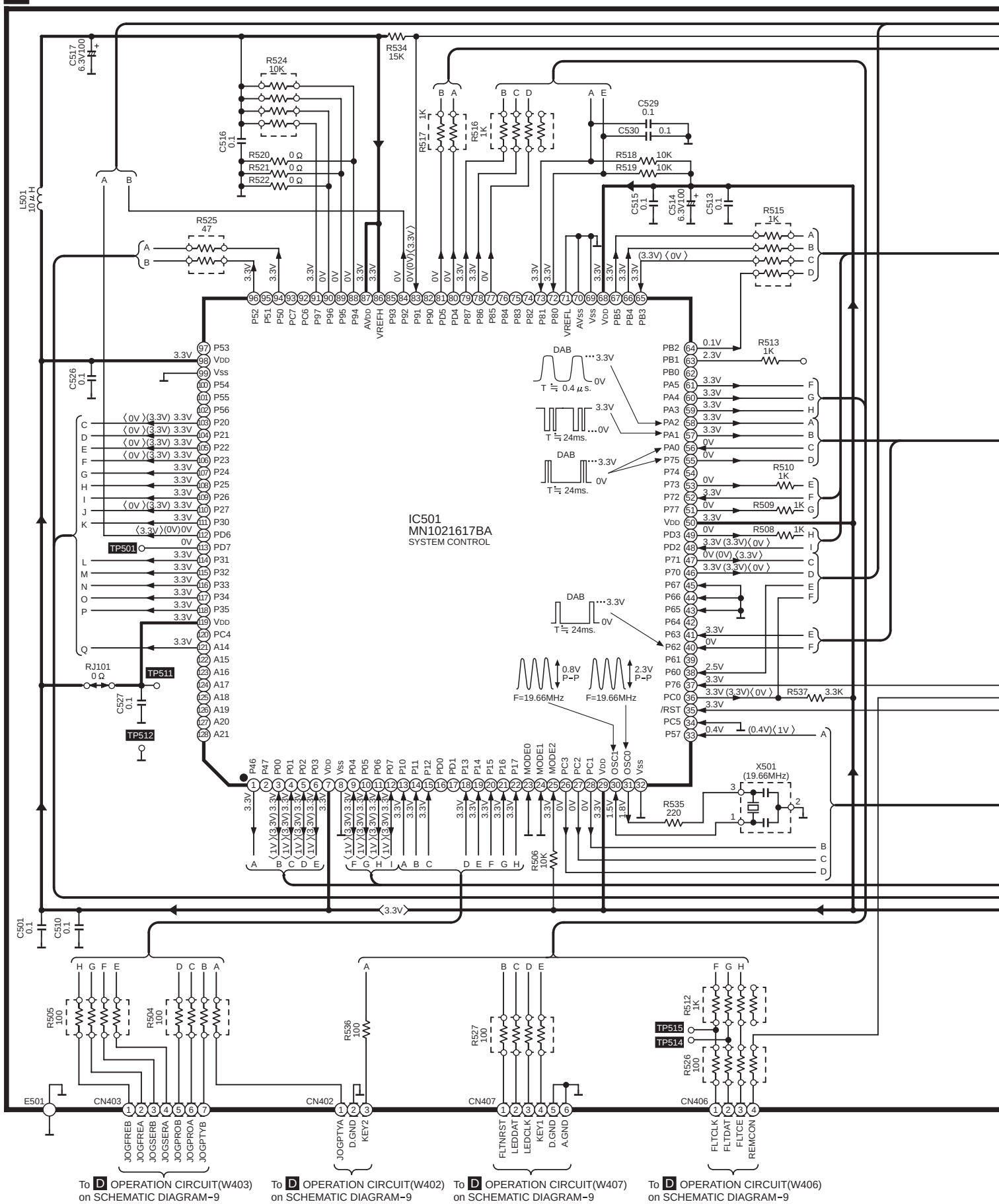
SCHEMATIC DIAGRAM–2



SCHEMATIC DIAGRAM−3

B MAIN CIRCUIT

:POSITIVE VOLTAGE LINE



To D OPERATION CIRCUIT(W403) on SCHEMATIC DIAGRAM−9

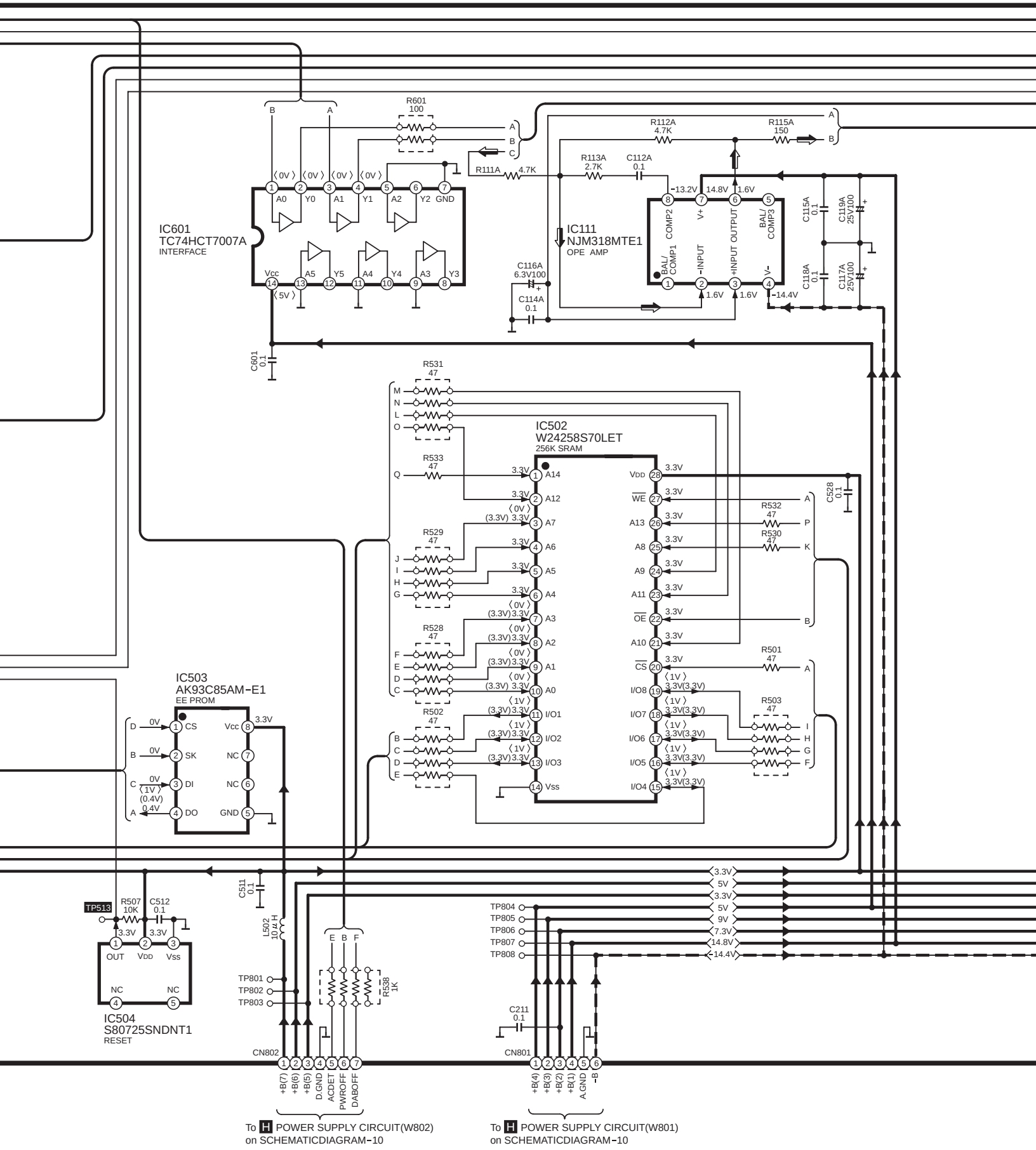
To D OPERATION CIRCUIT(W402) on SCHEMATIC DIAGRAM−9

To D OPERATION CIRCUIT(W407) on SCHEMATIC DIAGRAM−9

To D OPERATION CIRCUIT(W406) on SCHEMATIC DIAGRAM−9

SCHEMATIC DIAGRAM−4

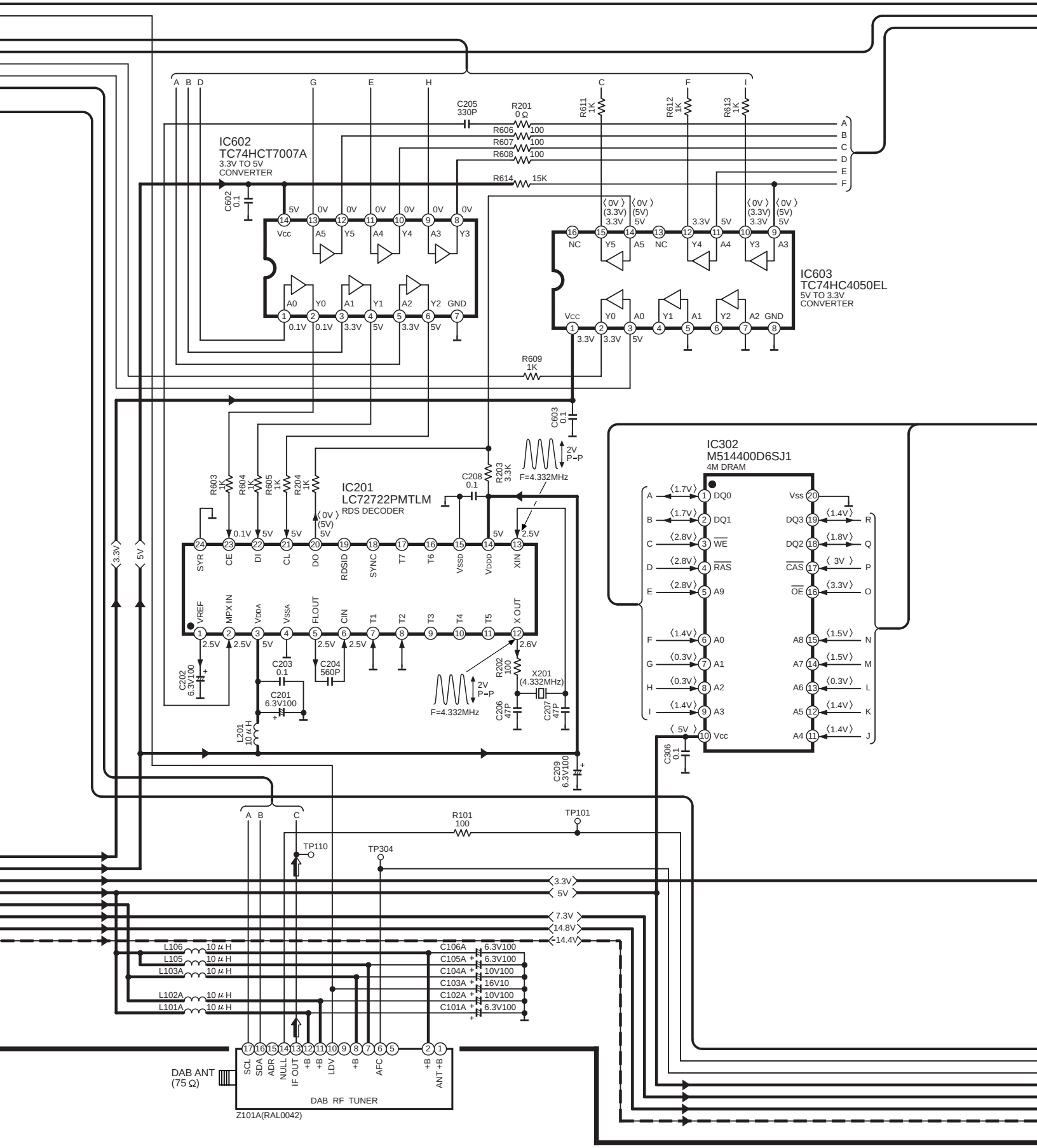
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :DAB SIGNAL LINE



SCHEMATIC DIAGRAM–5

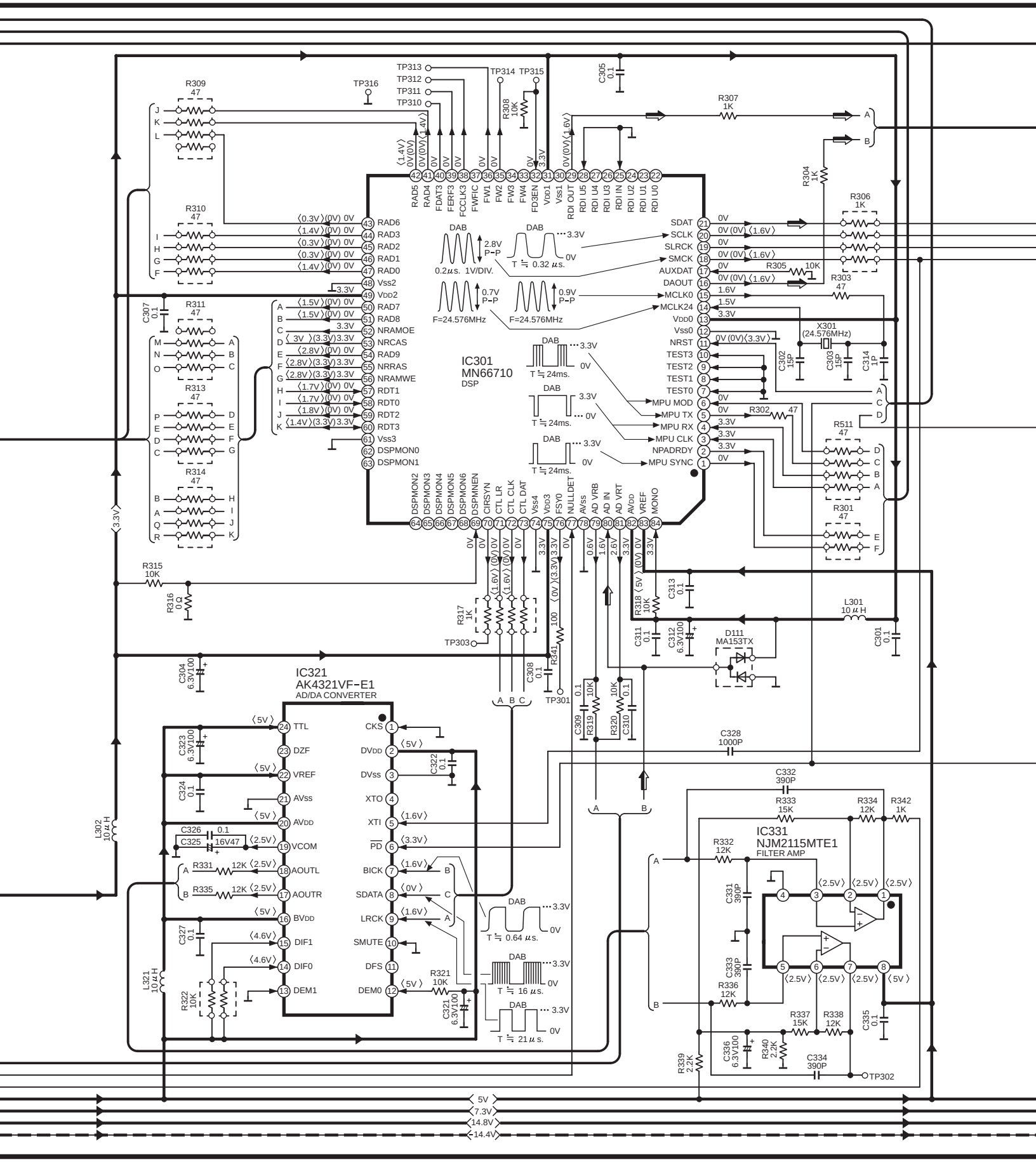
B MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :DAB SIGNAL LINE



SCHEMATIC DIAGRAM-6

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE :DAB SIGNAL LINE

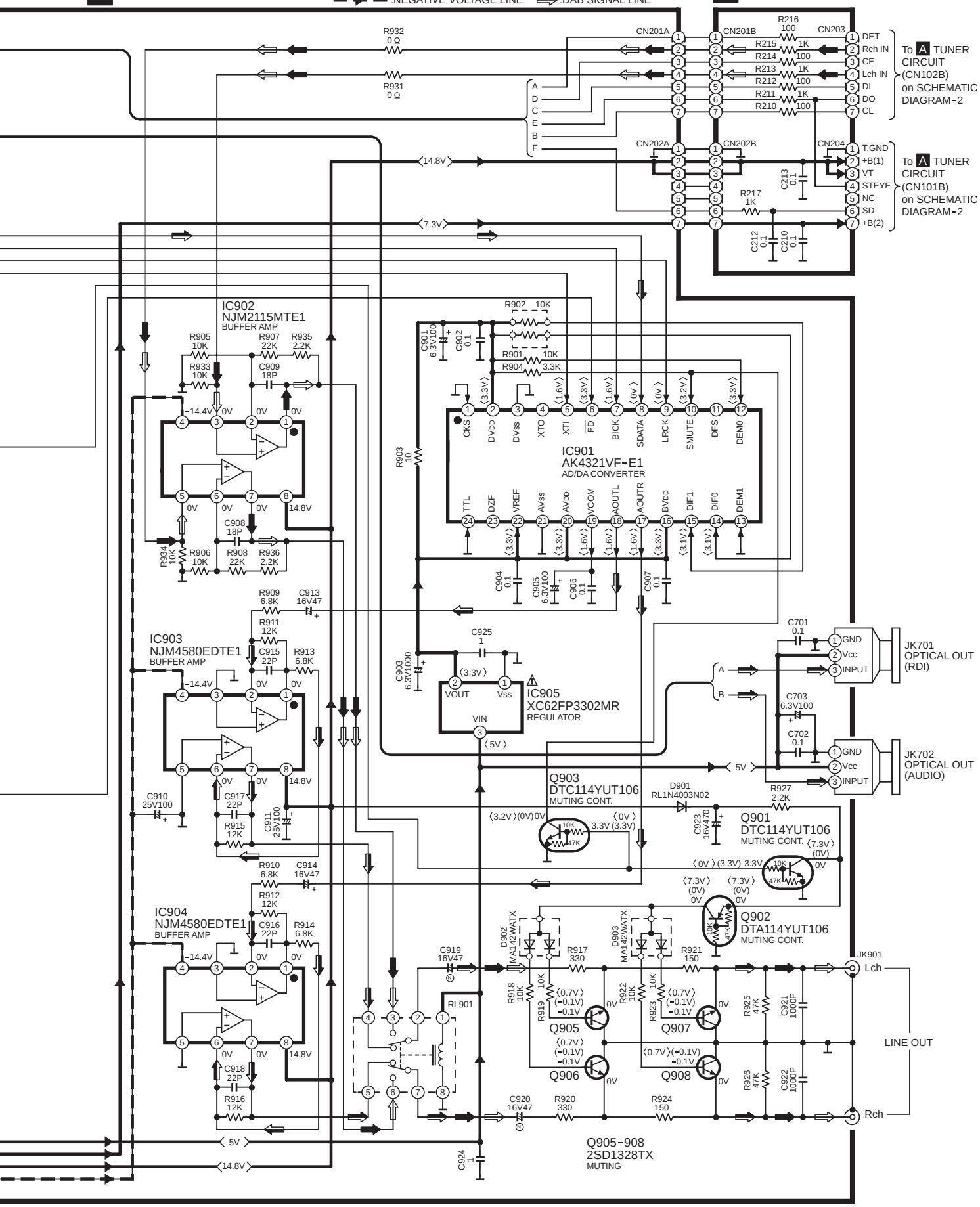


SCHEMATIC DIAGRAM-7

B MAIN CIRCUIT

:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
:FM SIGNAL LINE
:AM SIGNAL LINE
:DAB SIGNAL LINE

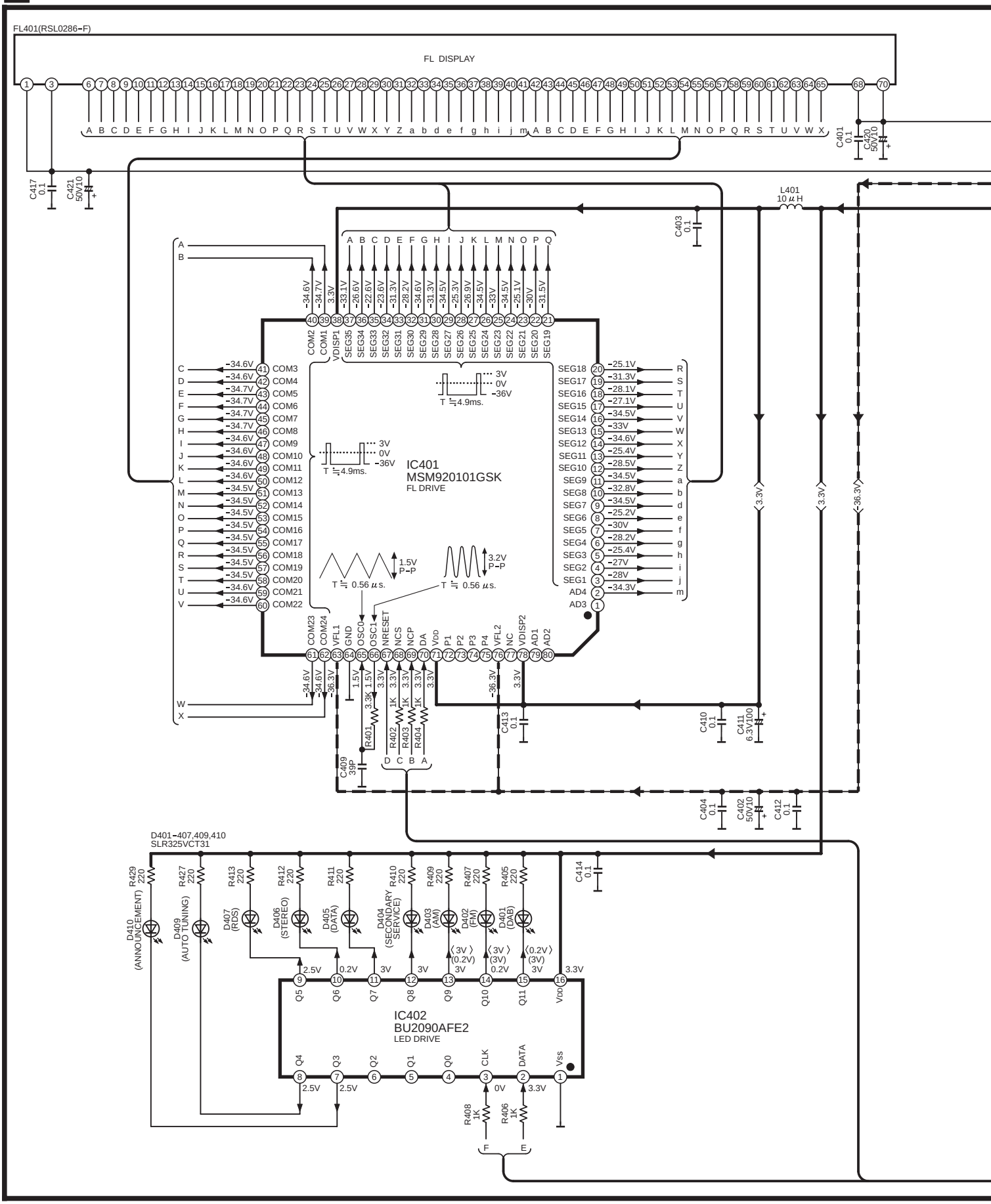
C CONNECTOR CIRCUIT



SCHEMATIC DIAGRAM-8

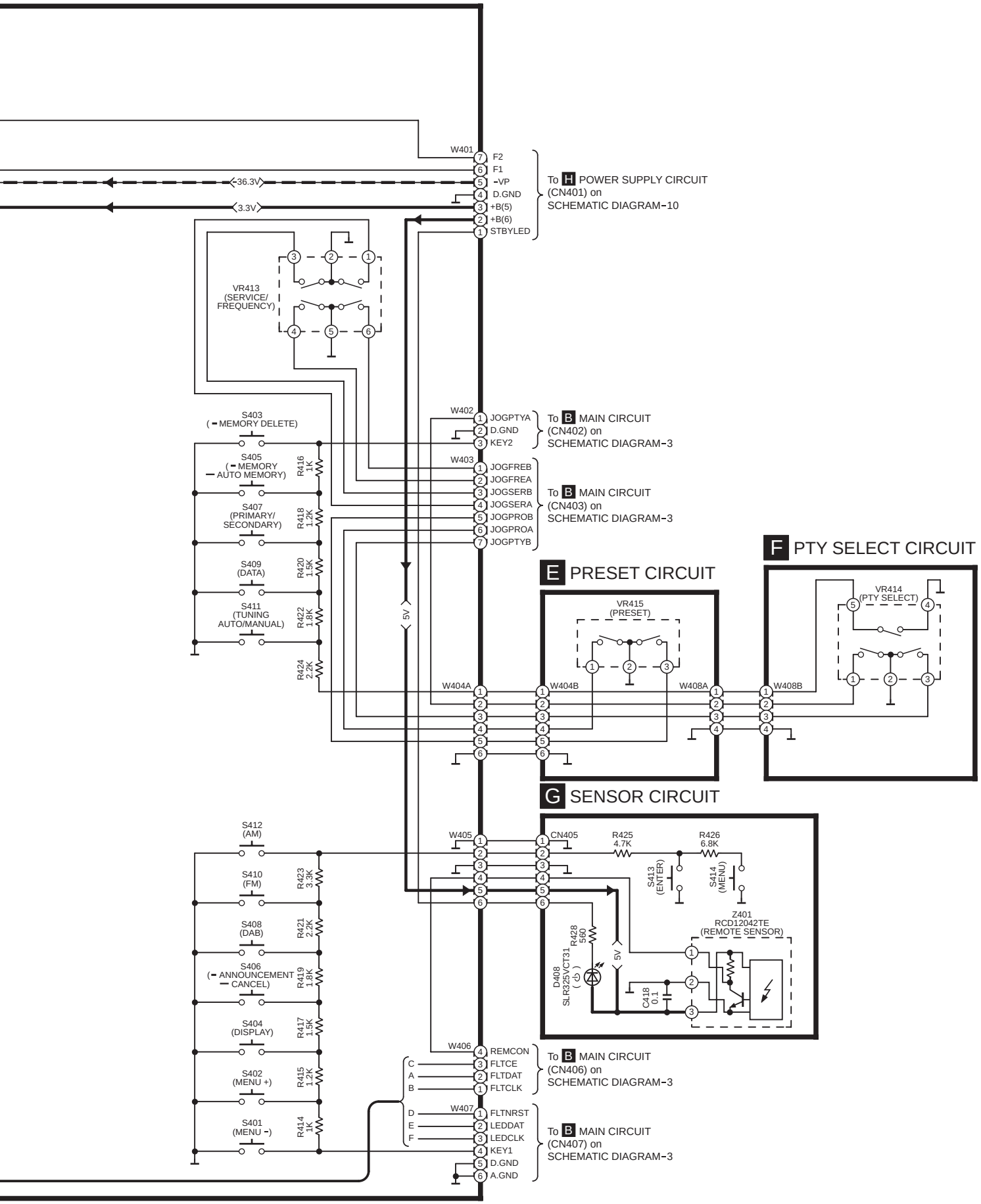
D OPERATION CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE



SCHEMATIC DIAGRAM–9

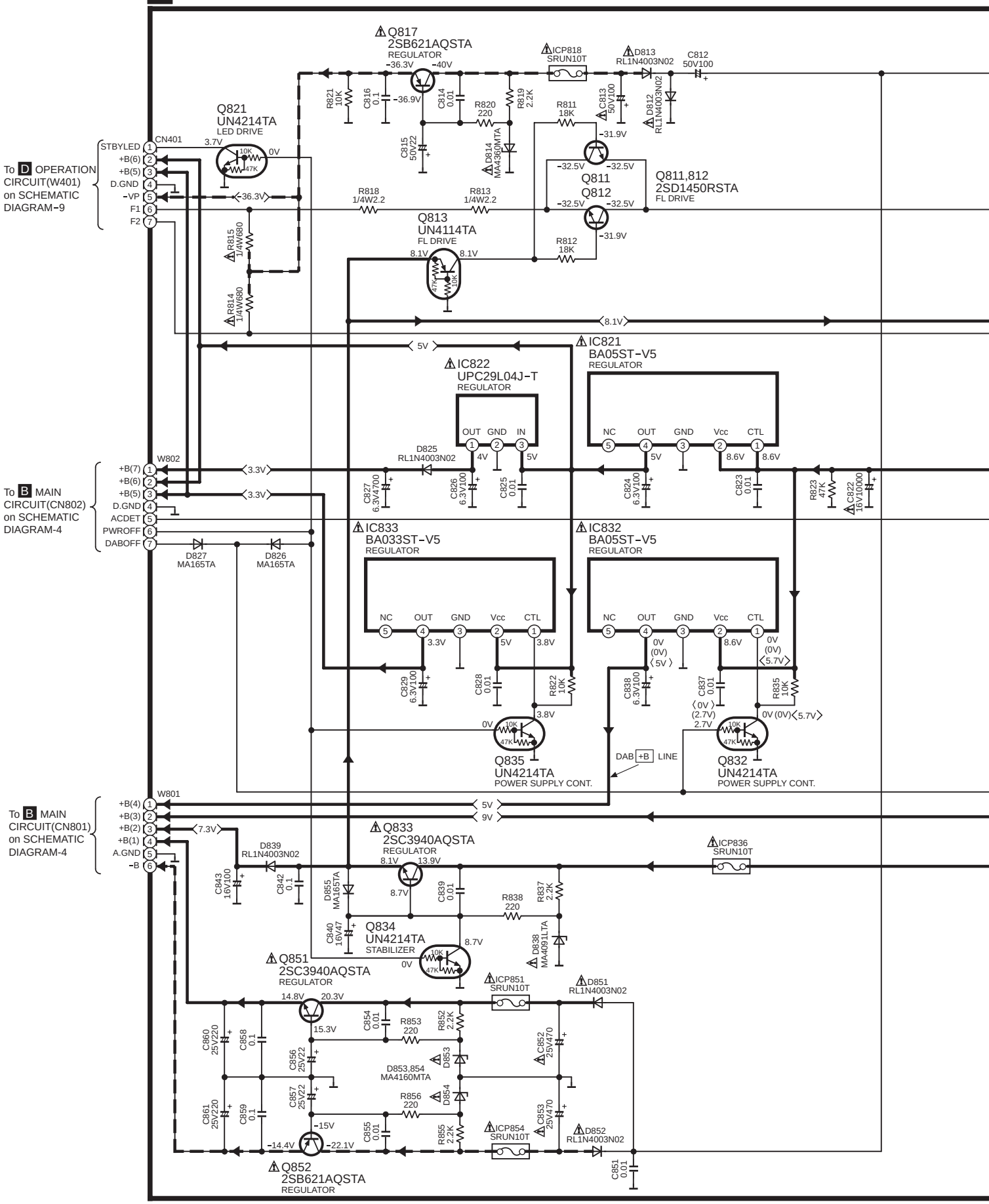
:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE



SCHEMATIC DIAGRAM−10

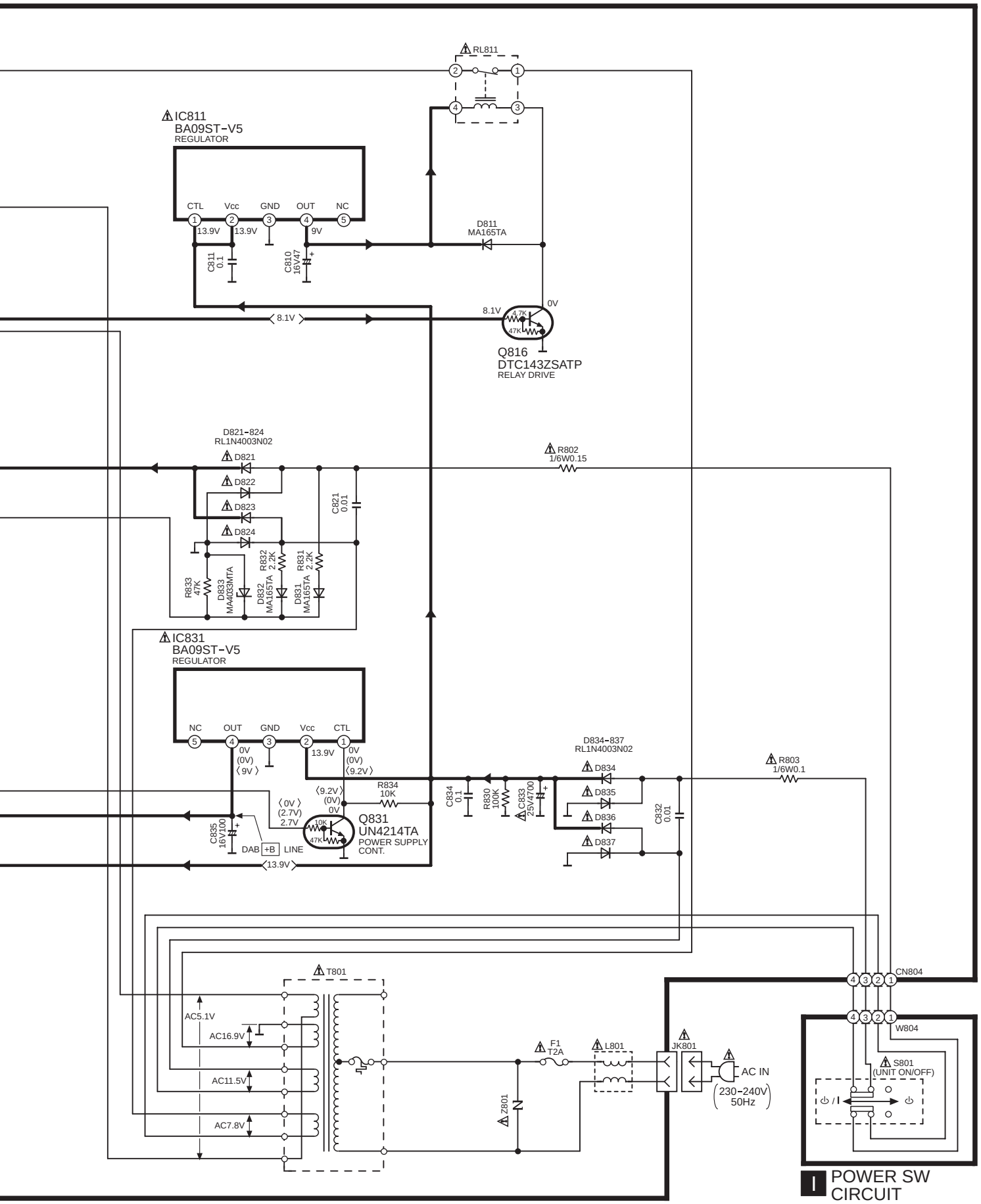
H POWER SUPPLY CIRCUIT

:POSITIVE VOLTAGE LINE :NEGATIVE VOLTAGE LINE



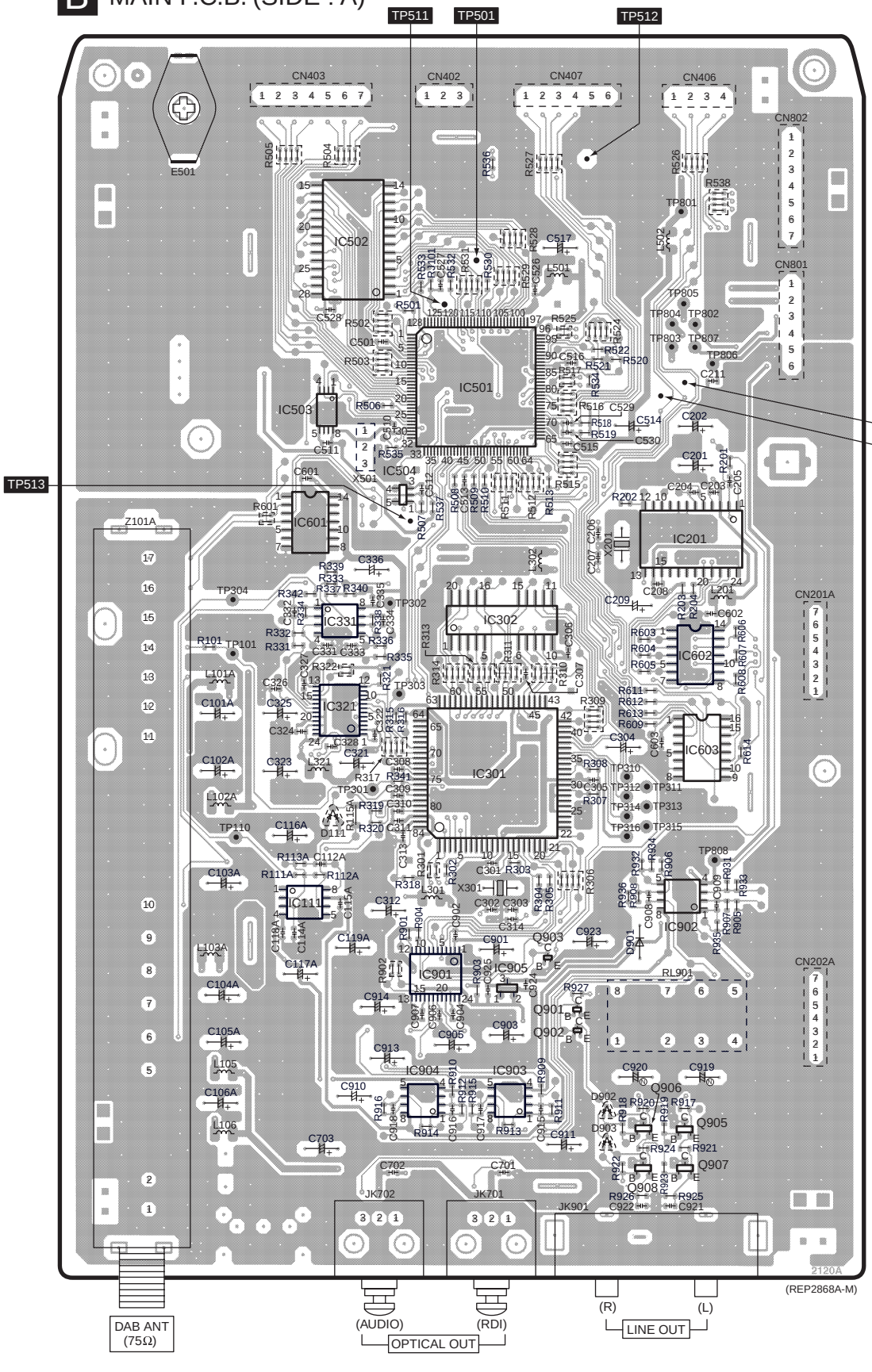
SCHEMATIC DIAGRAM-11

:POSITIVE VOLTAGE LINE



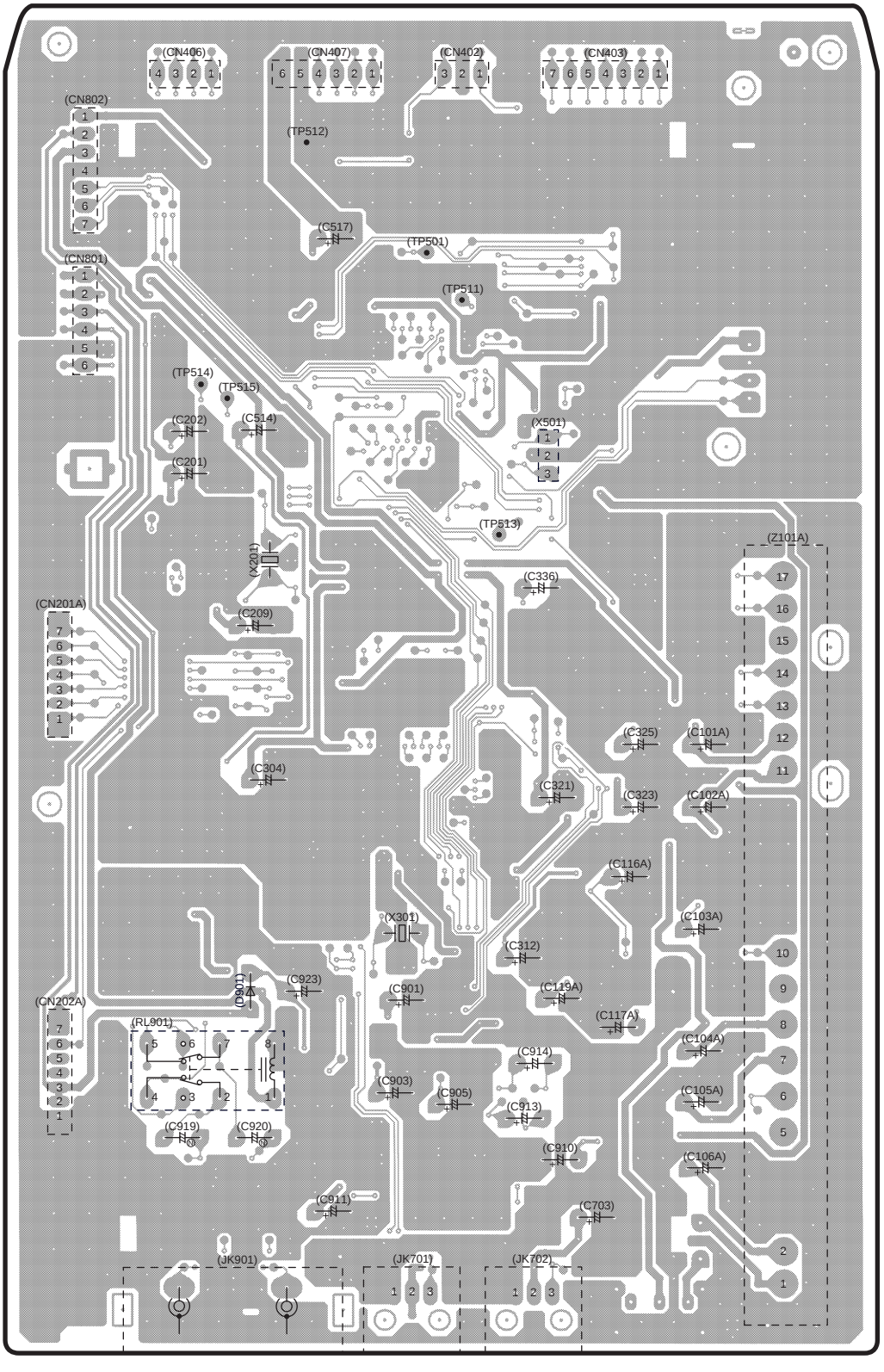
I POWER SW CIRCUIT

B MAIN P.C.B. (SIDE : A)



G H I J K L

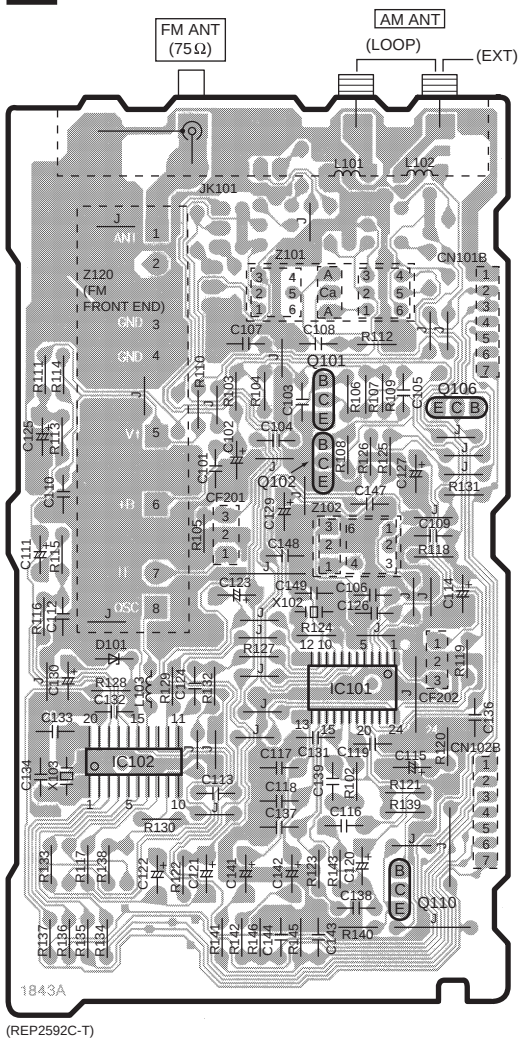
B MAIN P.C.B. (SIDE : B)



■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
B MAIN P.C.B. (SIDE : A)									
IC111	6C	E501	1B	R515	3D	R922	7D	C327	5C
IC201	4E	R101	4B	R516	3D	R923	7E	C328	5C
IC301	5D	R111A	6C	R517	3D	R924	7E	C331	4C
IC302	4D	R112A	6C	R518	3D	R925	8E	C332	4C
IC321	5C	R113A	6C	R519	3D	R926	8E	C333	4C
IC331	4C	R115A	5C	R520	3D	R927	6D	C334	4C
IC501	3D	R201	3E	R521	3D	R931	6E	C335	4C
IC502	2C	R202	4D	R522	3D	R932	6E	C336	4C
IC503	3C	R203	4E	R524	3D	R933	6E	C501	3C
IC504	4C	R204	4E	R525	3D	R934	6E	C510	3C
IC601	4C	R301	6C	R526	2E	R935	6E	C511	3C
IC602	5E	R302	6C	R527	2D	R936	6D	C512	4C
IC603	5E	R303	6D	R528	2D	RJ101	2C	C513	4D
IC901	6C	R304	6D	R529	2D	C101A	5B	C514	3D
IC902	6E	R305	6D	R530	2D	C102A	5B	C515	3D
IC903	7D	R306	6D	R531	2D	C103A	6B	C516	3D
IC904	7C	R307	5D	R532	2C	C104A	6B	C517	2D
IC905	6D	R308	5D	R533	2C	C105A	7B	C526	2D
Q901	7D	R309	5D	R534	3D	C106A	7B	C527	2C
Q902	7D	R310	5D	R535	3C	C112A	6C	C528	3C
Q903	6D	R311	5D	R536	2D	C114A	6C	C529	3D
Q905	7E	R313	5D	R537	4C	C115A	6C	C530	3D
Q906	7E	R314	5C	R538	2E	C116A	6C	C601	4C
Q907	7E	R315	5C	R601	4B	C117A	6C	C602	4E
Q908	7E	R316	5C	R603	4E	C118A	6B	C603	5E
D111	5C	R317	5C	R604	5E	C119A	6C	C701	7D
D901	6D	R318	6C	R605	5E	C201	3E	C702	7C
D902	7D	R319	5C	R606	4E	C202	3E	C703	7C
D903	7D	R320	5C	R607	5E	C203	4E	C901	6D
L101A	5B	R321	5C	R608	5E	C204	4E	C902	6C
L102A	5B	R322	5C	R609	5E	C205	4E	C903	7D
L103A	6B	R331	4C	R611	5E	C206	4D	C904	7C
L105	7B	R332	4C	R612	5E	C207	4D	C905	7C
L106	7B	R333	4C	R613	5E	C208	4E	C906	7C
L201	4E	R334	4C	R614	5E	C209	4D	C907	7C
L301	6C	R335	5C	R901	6C	C211	3E	C908	6E
L302	4D	R336	4C	R902	6C	C301	6D	C909	6E
L321	5C	R337	4C	R903	6D	C302	6D	C910	7C
L501	2D	R338	4C	R904	6C	C303	6D	C911	7D
L502	2E	R339	4C	R905	6E	C304	5D	C913	7C
Z101A	4B	R340	4C	R906	6E	C305	5D	C914	7C
X201	4D	R341	5C	R907	6E	C306	5D	C915	7D
X301	6D	R342	4C	R908	6D	C307	5D	C916	7C
X501	3C	R501	3C	R909	7D	C308	5C	C917	7D
RL901	7E	R502	3C	R910	7C	C309	5C	C918	7C
CN201A	4E	R503	3C	R911	7D	C310	5C	C919	7E
CN202A	7E	R504	2C	R912	7C	C311	5C	C920	7D
CN402	1C	R505	2C	R913	7D	C312	6C	C921	8E
CN403	1C	R506	3C	R914	7C	C313	6C	C922	8E
CN406	1E	R507	4C	R915	7D	C314	6D	C923	6D
CN407	1D	R508	4C	R916	7C	C321	5C	C924	6D
CN801	3E	R509	4D	R917	7E	C322	5C	C925	6D
CN802	2E	R510	4D	R918	7D	C323	5B		
JK701	8D	R511	4D	R919	7E	C324	5C		
JK702	8C	R512	4D	R920	7E	C325	5B		
JK901	8E	R513	4D	R921	7E	C326	5B		
B MAIN P.C.B. (SIDE : B)									
(D901)	6H	(CN406)	1H	(C104A)	6K	(C312)	6J	(C905)	7I
(Z101A)	4K	(CN407)	1I	(C105A)	7K	(C321)	5J	(C910)	7J
(X201)	4I	(CN801)	3H	(C106A)	7K	(C323)	5J	(C911)	7I
(X301)	6I	(CN802)	2H	(C116A)	6J	(C325)	5J	(C913)	7J
(X501)	3J	(JK701)	8I	(C117A)	6J	(C336)	4J	(C914)	7J
(RL901)	7H	(JK702)	8J	(C119A)	6J	(C514)	3H	(C919)	7H
(CN201A)	5G	(JK901)	8H	(C201)	3H	(C517)	2I	(C920)	7H
(CN202A)	7G	(C101A)	5K	(C202)	3H	(C703)	7J	(C923)	6I
(CN402)	1J	(C102A)	5K	(C209)	4H	(C901)	6I		
(CN403)	1J	(C103A)	6K	(C304)	5I	(C903)	7I		

A TUNER P.C.B.

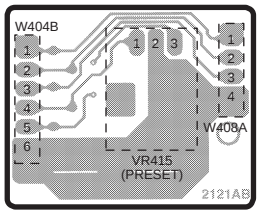


(REP2592C-T)

■ ELECTRICAL PARTS LOCATION

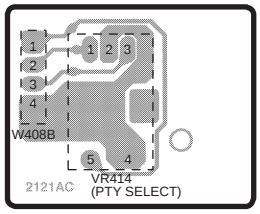
Ref. No.	Lo. No.	Ref. No.	Lo. No.
A TUNER P.C.B.			
IC101	4C	R136	5B
IC102	5B	R137	5B
Q101	3C	R138	5B
Q102	3C	R139	5C
Q106	3D	R140	5C
Q110	5C	R141	5C
D101	4B	R142	5C
L101	2C	R143	5C
L102	2D	R145	5C
L103	4B	R146	5C
Z101	2C	C101	3C
Z102	4C	C102	3C
Z120	3B	C103	3C
CF201	4C	C104	3C
CF202	4D	C105	3C
X102	4C	C106	4C
X103	5B	C107	3C
CN101B	3D	C108	3C
CN102B	5D	C109	4D
JK101	2C	C110	3B
R102	5C	C111	4B
R103	3C	C112	4B
R104	3C	C113	5C
R105	4C	C114	4D
R106	3C	C115	5C
R107	3C	C116	5C
R108	3C	C117	5C
R109	3C	C118	5C
R110	3C	C119	5C
R111	3B	C120	5C
R112	3C	C121	5C
R113	3B	C122	5B
R114	3B	C123	4C
R115	4B	C124	4B
R116	4B	C125	3B
R117	5B	C126	4C
R118	4D	C127	3C
R119	4D	C129	3C
R120	5D	C130	4B
R121	5C	C131	4C
R122	5B	C132	4B
R123	5C	C133	4B
R124	4C	C134	5B
R125	3C	C136	4D
R126	3C	C137	5C
R127	4C	C138	5C
R128	4B	C139	5C
R129	4B	C141	5C
R130	5B	C142	5C
R131	3D	C143	5C
R132	4C	C144	5C
R133	5B	C147	3C
R134	5B	C148	4C
R135	5B	C149	4C
E PRESET P.C.B.			
VR415 W404B	7B 7A	W408A	7B
F PTY SELECT P.C.B.			
VR414	7D	W408B	7C

E PRESET P.C.B.



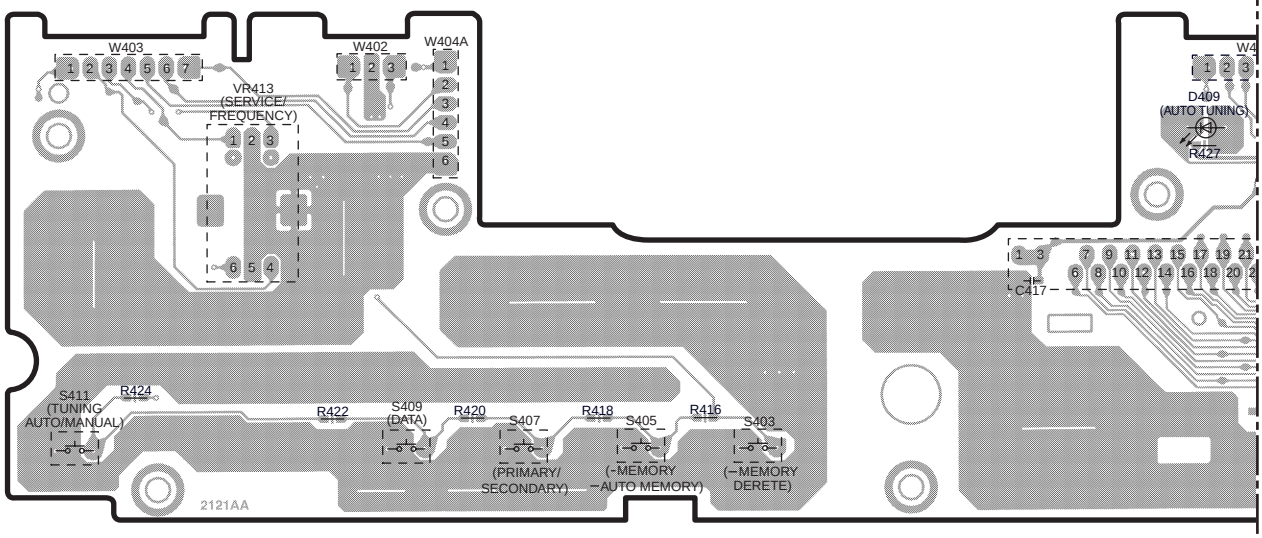
(REP2870A-S)

F PTY SELECT P.C.B.

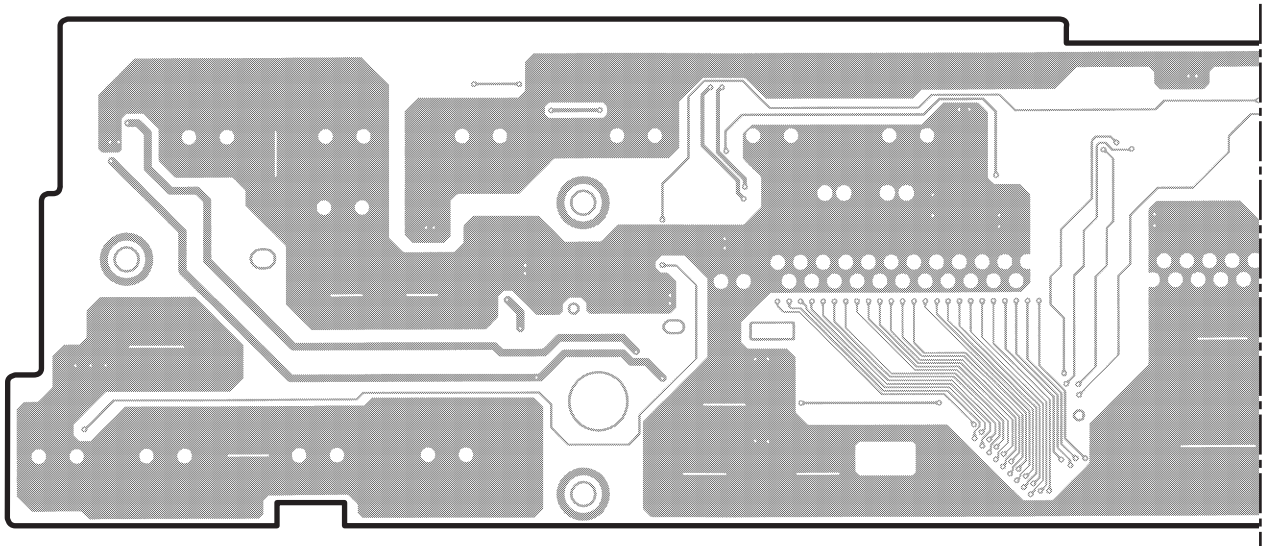


(REP2870A-S)

D OPERATION P.C.B. (SIDE : A)



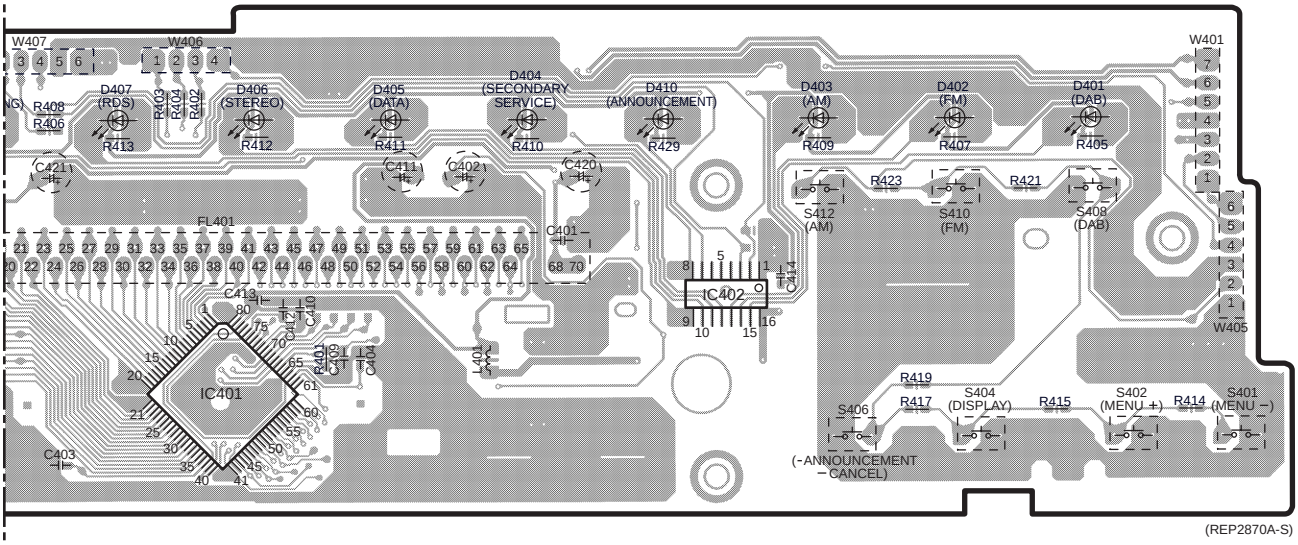
D OPERATION P.C.B. (SIDE : B)



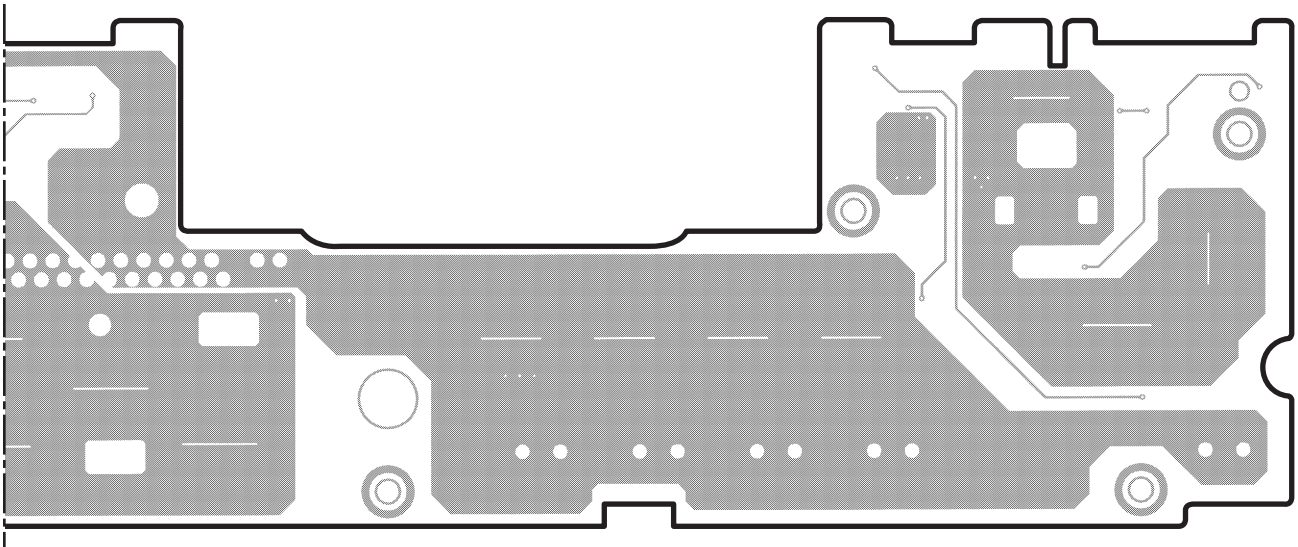
■ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
D OPERATION P.C.B. (SIDE : A)											
IC401	3G	L401	3I	S411	3A	C404	3H	R403	2G	R415	3K
IC402	2J	FL401	2G	S412	2J	C409	3H	R404	2G	R416	3D
D401	2K	S401	3L	W401	2L	C410	3H	R405	2K	R417	3K
D402	2K	S402	3L	W402	1C	C411	2H	R406	2G	R418	3D
D403	2J	S403	3D	W403	1A	C412	3H	R407	2K	R419	3K
D404	2I	S404	3K	W404A	2C	C413	2H	R408	2G	R420	3C
D405	2H	S405	3D	W405	2L	C414	2J	R409	2J	R421	2K
D406	2H	S406	3J	W406	1G	C417	2E	R410	2I	R422	3B
D407	2G	S407	3C	W407	1G	C420	2I	R411	2H	R423	2J
D409	2F	S408	2K	C401	2I	C421	2G	R412	2H	R424	3A
D410	2I	S409	3C	C402	2I	R401	3H	R413	2G	R427	2F
VR413	2B	S410	2K	C403	3G	R402	2G	R414	3L	R429	2I

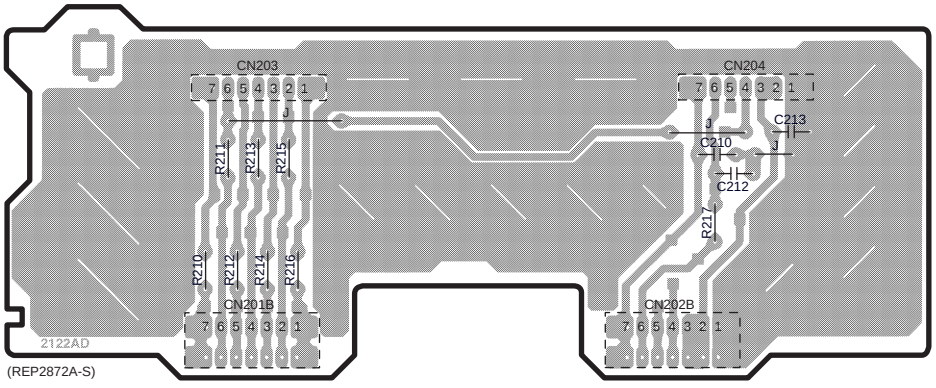
G H I J K L



(REP2870A-S)

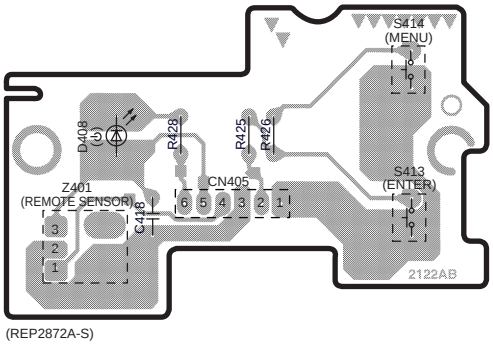


C CONNECTOR P.C.B.



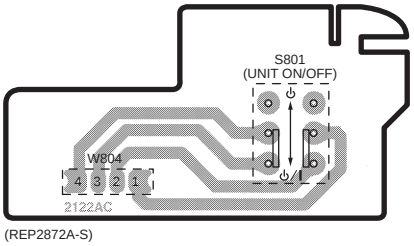
(REP2872A-S)

G SENSOR P.C.B.



(REP2872A-S)

I POWER SW P.C.B.

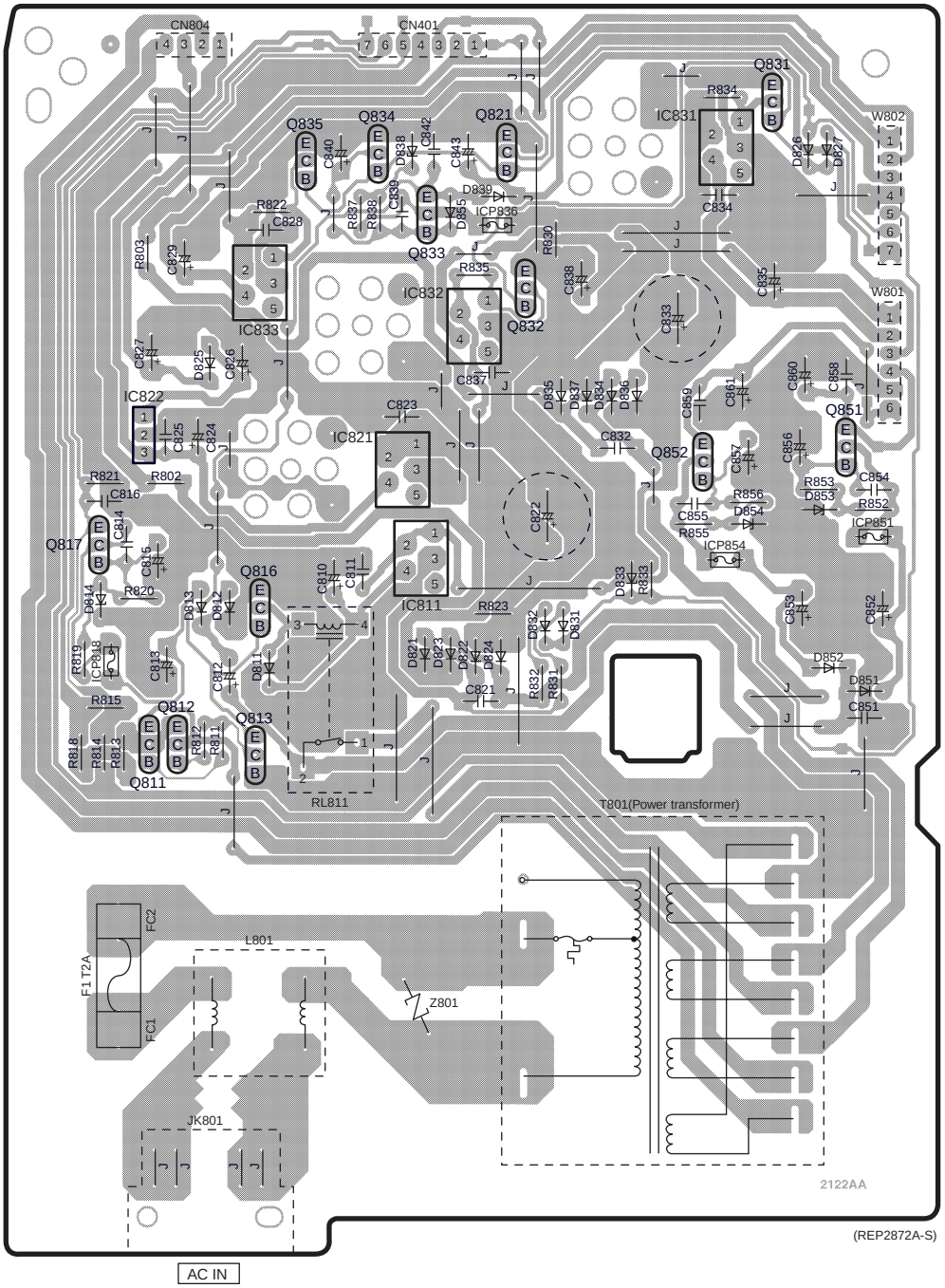


(REP2872A-S)

■ ELECTRICAL PARTS LOCATION

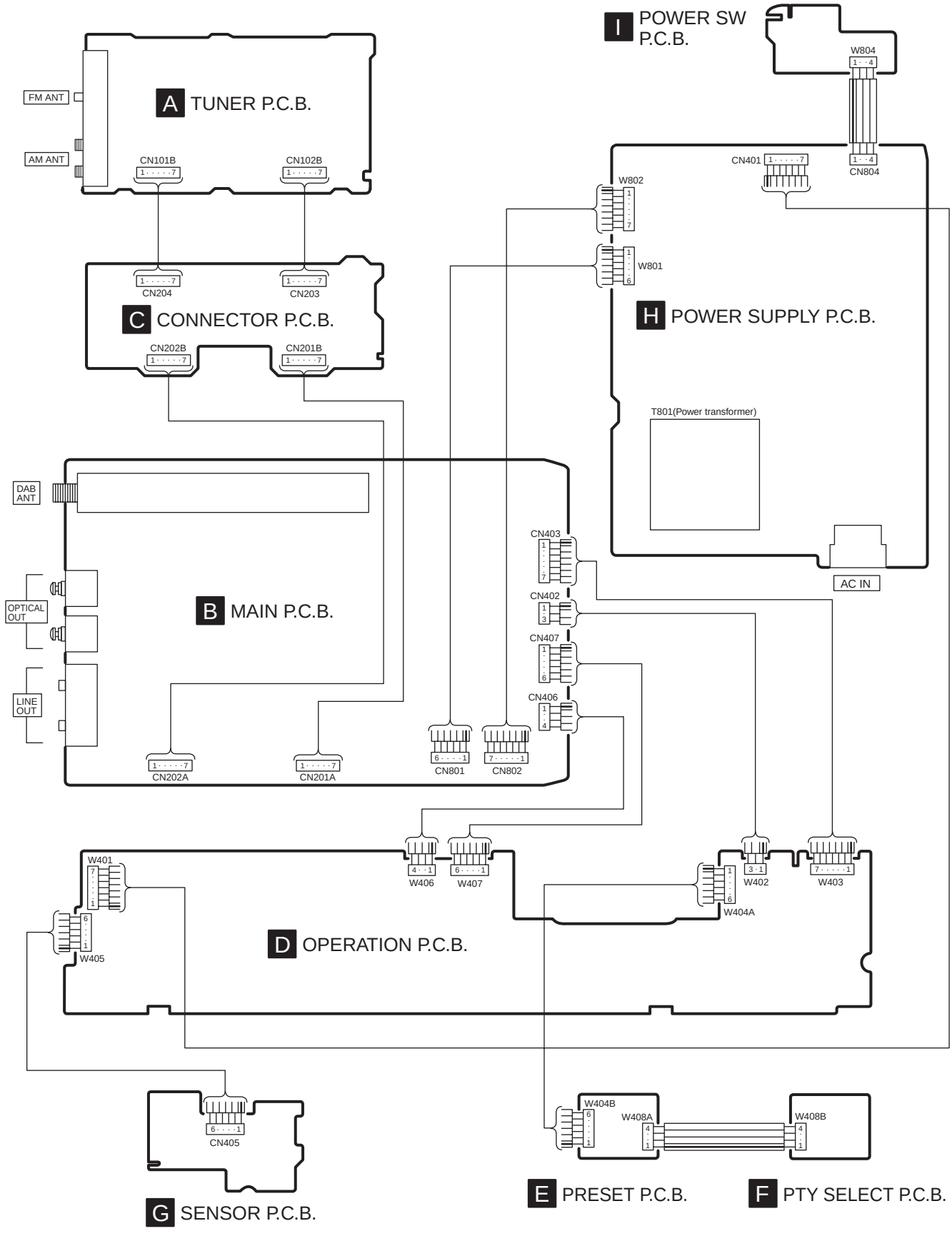
Ref. No.	Lo. No.	Ref. No.	Lo. No.
C CONNECTOR P.C.B.			
CN201B	3C	R214	3C
CN202B	3E	R215	2C
CN203	2C	R216	3C
CN204	2E	R217	2E
R210	3B	C210	2E
R211	2C	C212	2E
R212	3C	C213	2E
R213	2C		
G SENSOR P.C.B.			
D408	5B	R425	5C
Z401	5B	R426	5C
S413	5C	R428	5B
S414	5C	C418	5B
CN405	5C		
I POWER SW P.C.B.			
S801	7C	W804	8B

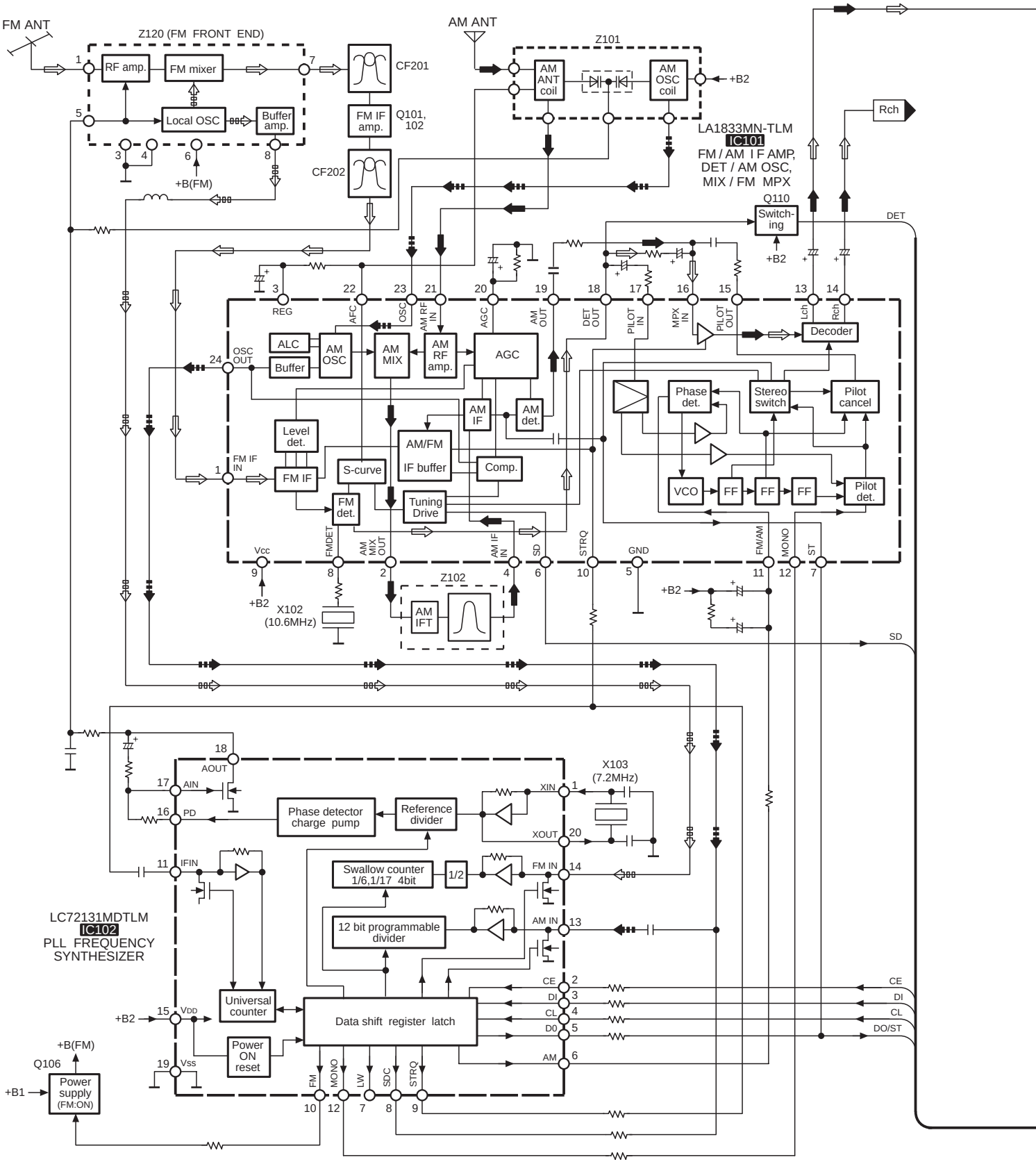
H POWER SUPPLY P.C.B.

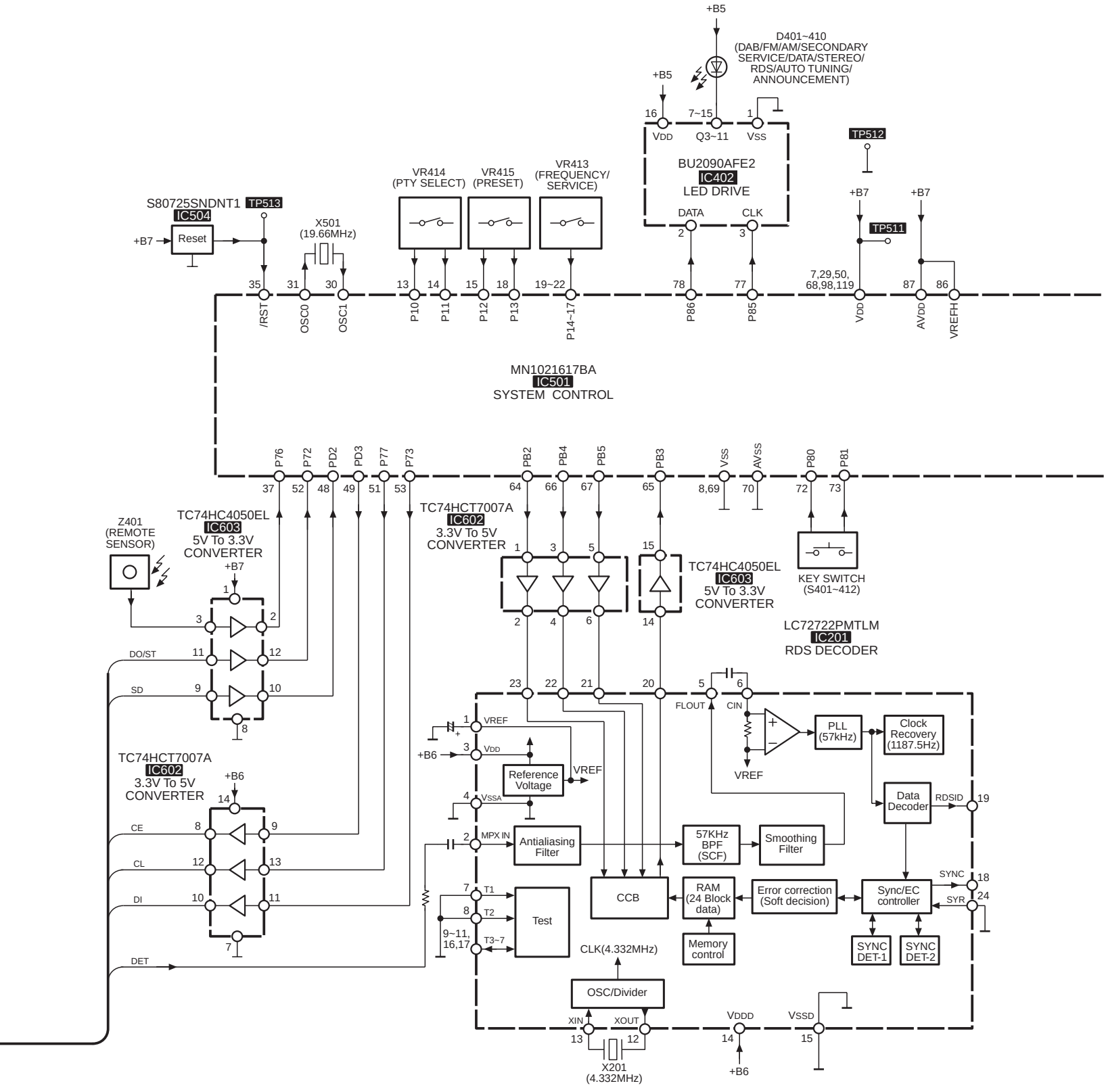


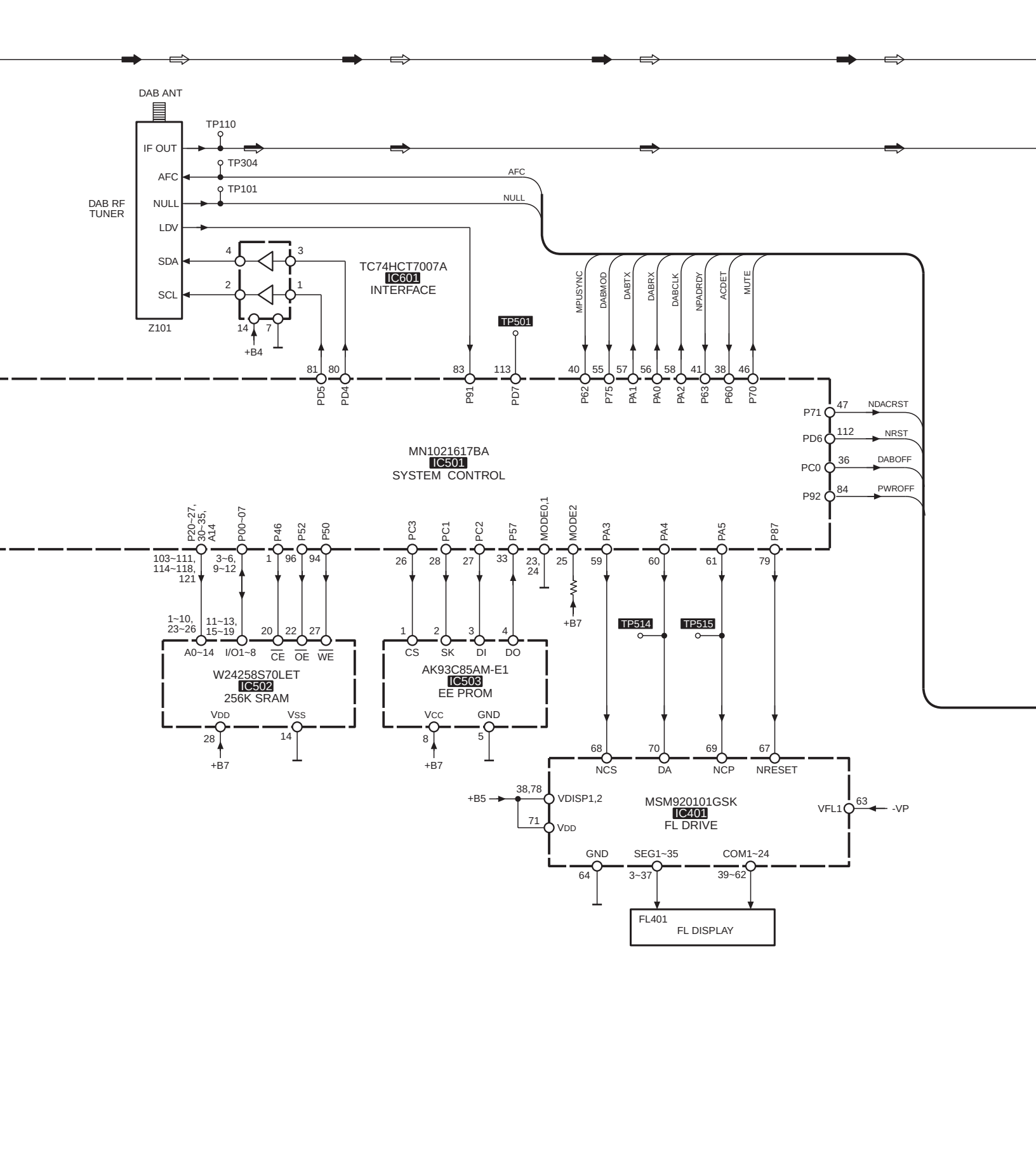
■ELECTRICAL PARTS LOCATION

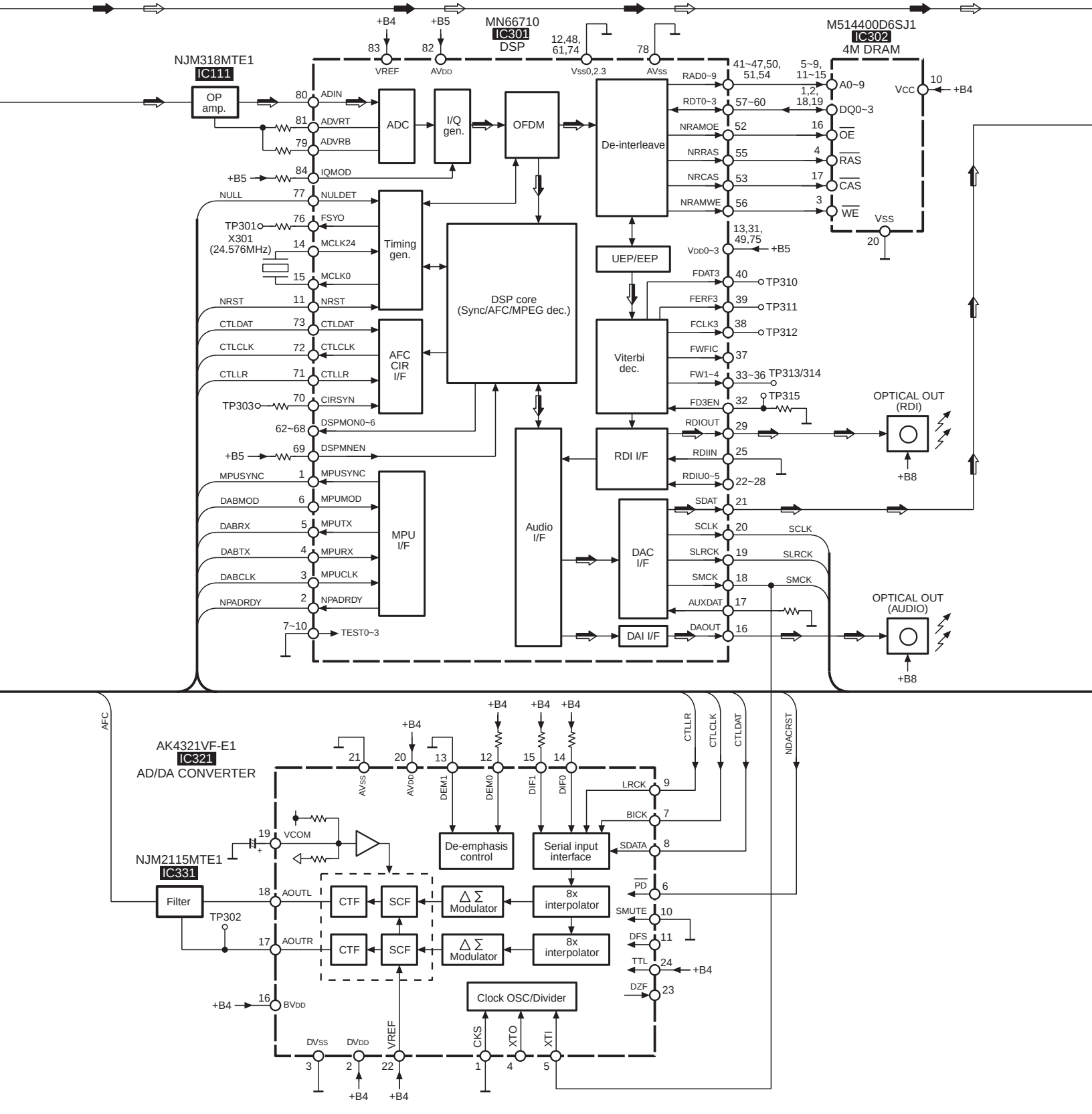
Ref. No.	Lo. No.	Ref. No.	Lo. No.
H POWER SUPPLY P.C.B.			
IC811	4C	R803	3A
IC821	4C	R811	5B
IC822	4A	R812	5B
IC831	2D	R813	5A
IC832	3C	R814	5A
IC833	3B	R815	5A
ICP818	5A	R818	5A
ICP836	3C	R819	5A
ICP851	4E	R820	4A
ICP854	4D	R821	4A
Q811	5A	R822	2B
Q812	5B	R823	4C
Q813	5B	R830	3C
Q816	4B	R831	5C
Q817	4A	R832	5C
Q821	2C	R833	4D
Q831	2D	R834	2D
Q832	3C	R835	3C
Q833	2C	R837	2B
Q834	2C	R838	2C
Q835	2B	R852	4E
Q851	4E	R853	4E
Q852	4D	R855	4D
D811	5B	R856	4D
D812	4B	C810	4B
D813	4B	C811	4B
D814	4A	C812	5B
D821	5C	C813	5B
D822	5C	C814	4A
D823	5C	C815	4A
D824	5C	C816	4A
D825	3B	C821	5C
D826	2E	C822	4C
D827	2E	C823	3C
D831	4C	C824	4B
D832	4C	C825	4B
D833	4D	C826	3B
D834	3D	C827	3A
D835	3C	C828	3B
D836	3D	C829	3B
D837	3D	C832	4D
D838	2C	C833	3D
D839	2C	C834	2D
D851	5E	C835	3D
D852	5E	C837	3C
D853	4E	C838	3C
D854	4D	C839	2C
D855	2C	C840	2B
L801	6B	C842	2C
T801	6D	C843	2C
Z801	6C	C851	5E
F1	6A	C852	4E
RL811	5B	C853	4E
CN401	2C	C854	4E
CN804	2B	C855	4D
JK801	7B	C856	4E
FC1	6A	C857	4D
FC2	6A	C858	3E
W801	3E	C859	3D
W802	2E	C860	3E
R802	4B	C861	3D

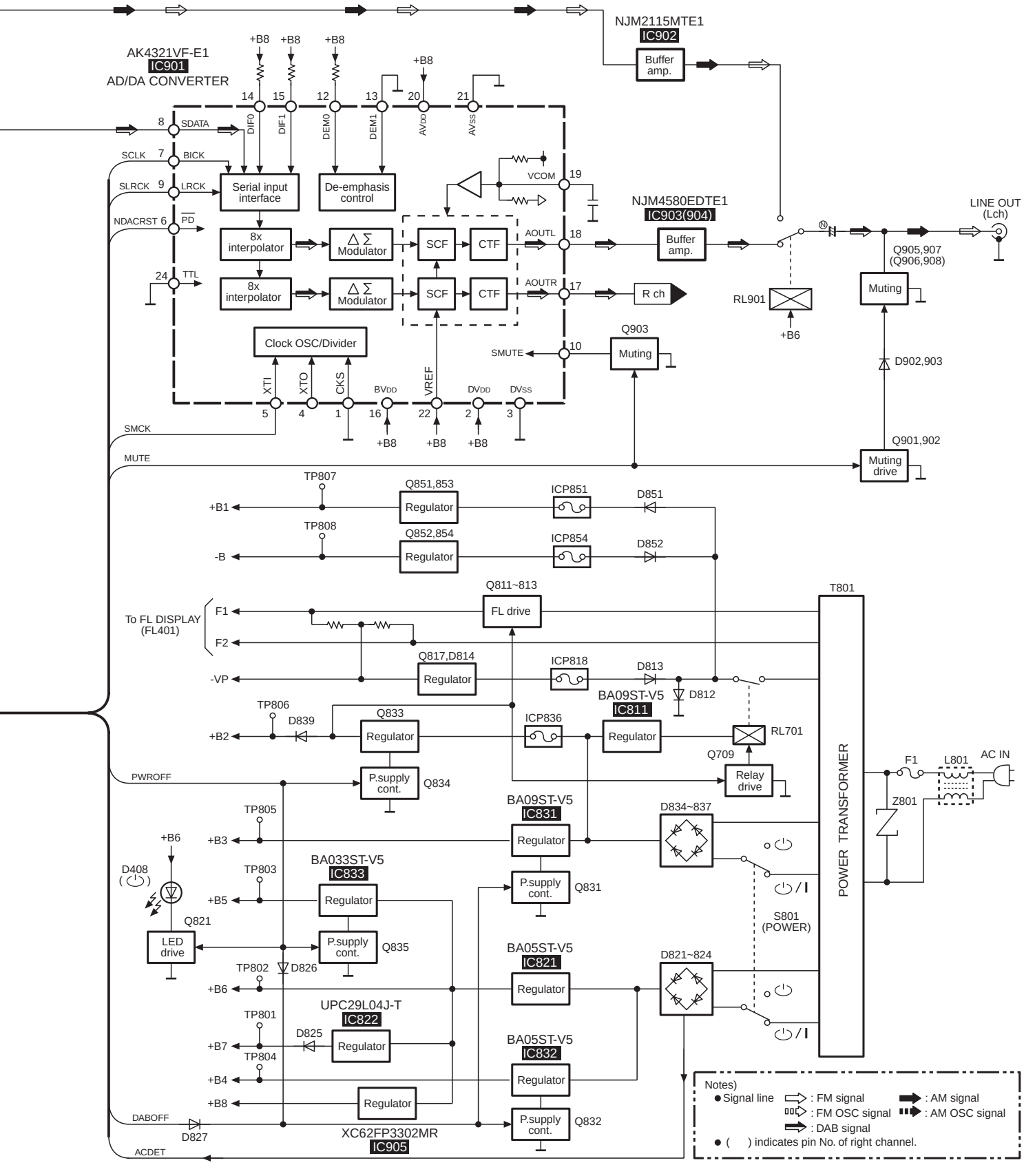

I POWER SW P.C.B.
W804
1 · · 4
A TUNER P.C.B.
FM ANT
AM ANT
CN101B
1 · · · · · 7
CN102B
1 · · · · · 7
CN401
1 · · · · · 7
1 · · 4
CN804
W802
1 · · · · · 7
W801
1 · · · · · 6
1 · · · · · 7
CN204
1 · · · · · 7
CN203
C CONNECTOR P.C.B.
H POWER SUPPLY P.C.B.
CN202B
1 · · · · · 7
CN201B
1 · · · · · 7
T801(Power transformer)
DAB ANT
CN403
1 · · · · · 7
AC IN
CN402
1 · · 3
OPTICAL OUT
B MAIN P.C.B.
CN407
1 · · · · · 6
CN406
1 · · · · 4
LINE OUT
1 · · · · · 7
CN202A
1 · · · · · 7
CN201A
6 · · · · 1
CN801
7 · · · · · 1
CN802
W401
7 · · · · · 1
6 · · · · 1
W405
4 · · 1
W406
6 · · · · 1
W407
1 · · · · 6
W404A
3 · 1
W402
7 · · · · · 1
W403
D OPERATION P.C.B.
6 · · · · 1
CN405
G SENSOR P.C.B.
W404B
6 · · · · 1
W408A
4 · · 1
W408B
4 · · 1
E PRESET P.C.B.
F PTY SELECT P.C.B.


FM ANT
Z120 (FM FRONT END)
RF amp.
FM mixer
Local OSC
Buffer amp.
CF201
FM IF amp.
Q101, 102
CF202
+B(FM)
AM ANT
Z101
AM ANT coil
AM OSC coil
+B2
LA1833MN-TLM
IC101
FM / AM I F AMP, DET / AM OSC, MIX / FM MPX
Rch
Q110
Switch-ing
DET
REG
AFC
OSC
AM RF IN
AGC
AM OUT
DET OUT
PILOT IN
MPX IN
PILOT OUT
Lch
Rch
Decoder
ALC
Buffer
OSC OUT
AM OSC
AM MIX
AM RF amp.
AGC
Phase det.
Stereo switch
Pilot cancel
AM IF
AM det.
Level det.
AM/FM IF buffer
Comp.
FM IF IN
FM IF
S-curve
FM det.
Tuning Drive
VCO
FF
FF
FF
Pilot det.
Vcc
FMDET
AM MIX OUT
AM IF IN
SD
STRQ
GND
FM/AM
MONO
ST
Z102
AM IFT
X102 (10.6MHz)
SD
AOUT
AIN
PD
Phase detector charge pump
Reference divider
X103 (7.2MHz)
XIN
XOUT
IFIN
Swallow counter 1/6,1/17 4bit
1/2
FM IN
12 bit programmable divider
AM IN
LC72131MDTLM
IC102
PLL FREQUENCY SYNTHESIZER
CE
DI
CL
D0
AM
Universal counter
Data shift register latch
VDD
VSS
Power ON reset
+B(FM)
Q106
Power supply (FM:ON)
+B1
FM
MONO
LW
SDC
STRQ
DO/ST

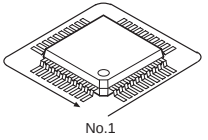

+B5
D401~410
(DAB/FM/AM/SECONDARY SERVICE/DATA/STEREO/ RDS/AUTO TUNING/ ANNOUNCEMENT)
+B5
16
7~15
1
VDD
Q3~11
VSS
BU2090AFE2
IC402
LED DRIVE
DATA
CLK
2
3
TP512
+B7
+B7
TP511
7,29,50, 68,98,119
87
86
VDD
AVDD
VREFH
VR414 (PTY SELECT)
VR415 (PRESET)
VR413 (FREQUENCY/ SERVICE)
S80725SNDNT1
IC504
TP513
+B7
Reset
X501 (19.66MHz)
35
31
30
13
14
15
18
19~22
78
77
/RST
OSC0
OSC1
P10
P11
P12
P13
P14~17
P86
P85
MN1021617BA
IC501
SYSTEM CONTROL
P76
P72
PD2
PD3
P77
P73
PB2
PB4
PB5
PB3
VSS
AVSS
P80
P81
37
52
48
49
51
53
64
66
67
65
8,69
70
72
73
Z401 (REMOTE SENSOR)
TC74HC4050EL
IC603
5V To 3.3V CONVERTER
+B7
TC74HCT7007A
IC602
3.3V To 5V CONVERTER
TC74HC4050EL
IC603
5V To 3.3V CONVERTER
KEY SWITCH (S401~412)
LC72722PMTLM
IC201
RDS DECODER
DO/ST
SD
TC74HCT7007A
IC602
3.3V To 5V CONVERTER
+B6
CE
CL
DI
DET
VREF
VDD
VSSA
Reference Voltage
MPX IN
Antialiasing Filter
57KHz BPF (SCF)
Smoothing Filter
FLOUT
CIN
PLL (57kHz)
Clock Recovery (1187.5Hz)
Data Decoder
RDSID
19
SYNC
18
SYR
24
CCB
RAM (24 Block data)
Error correction (Soft decision)
Sync/EC controller
Memory control
SYNC DET-1
SYNC DET-2
T1
T2
T3~7
9~11, 16,17
Test
CLK(4.332MHz)
OSC/Divider
XIN
XOUT
X201 (4.332MHz)
VDDD
VSSD
+B6

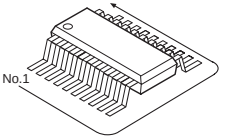

DAB ANT
TP110
IF OUT
TP304
AFC
TP101
NULL
LDV
SDA
SCL
DAB RF TUNER
Z101
TC74HCT7007A
IC601
INTERFACE
+B4
AFC
NULL
TP501
MPUSYNC
DABMOD
DABTX
DABRX
DABCLK
NPADRDY
ACDET
MUTE
81 PD5
80 PD4
83 P91
113 PD7
40 P62
55 P75
57 PA1
56 PA0
58 PA2
41 P63
38 P60
46 P70
P71 47 NDACRST
PD6 112 NRST
PC0 36 DABOFF
P92 84 PWROFF
MN1021617BA
IC501
SYSTEM CONTROL
P20~27, 30~35, A14
P00~07
P46
P52
P50
PC3
PC1
PC2
P57
MODE0,1
MODE2
PA3
PA4
PA5
P87
103~111, 114~118, 121
3~6, 9~12
1
96
94
26
28
27
33
23, 24
25
59
60
61
79
+B7
TP514
TP515
1~10, 23~26
11~13, 15~19
20
22
27
A0~14
I/O1~8
CE
OE
WE
W24258S70LET
IC502
256K SRAM
VDD
VSS
28
14
+B7
1
2
3
4
CS
SK
DI
DO
AK93C85AM-E1
IC503
EE PROM
VCC
GND
8
5
+B7
68
70
69
67
NCS
DA
NCP
NRESET
+B5
38,78
VDISP1,2
71
VDD
MSM920101GSK
IC401
FL DRIVE
VFL1
63
-VP
GND
SEG1~35
COM1~24
64
3~37
39~62
FL401
FL DISPLAY


NJM318MTE1
IC111
OP amp.
MN66710
IC301
DSP
M514400D6SJ1
IC302
4M DRAM
+B4
+B5
VREF
AVDD
Vss0,2.3
AVss
ADIN
ADVRT
ADVRB
IQMOD
ADC
I/Q gen.
OFDM
De-interleave
RAD0~9
RDT0~3
NRAMOE
NRRAS
NRCAS
NRAMWE
A0~9
DQ0~3
OE
RAS
CAS
WE
Vcc
Vss
NULL
NULDET
TP301
X301
(24.576MHz)
FSYO
MCLK24
MCLK0
Timing gen.
DSP core
(Sync/AFC/MPEG dec.)
UEP/EEP
Viterbi dec.
VDD0~3
FDAT3
FERF3
FCLK3
FWFIC
FW1~4
FD3EN
TP310
TP311
TP312
TP313/314
TP315
NRST
CTLDAT
CTLCLK
CTLLR
TP303
CIRSYN
AFC CIR I/F
DSPMON0~6
DSPMNEN
RDI I/F
RDIOUT
RDIIN
RDIU0~5
OPTICAL OUT (RDI)
MPUSYNC
DABMOD
DABRX
DABTX
DABCLK
NPADRDY
MPUMOD
MPUTX
MPURX
MPUCLK
MPU I/F
Audio I/F
DAC I/F
SDAT
SCLK
SLRCK
SMCK
AUXDAT
DAOUT
DAI I/F
OPTICAL OUT (AUDIO)
TEST0~3
AFC
AK4321VF-E1
IC321
AD/DA CONVERTER
AVSS
AVDD
DEM1
DEM0
DIF1
DIF0
LRCK
BICK
SDATA
CTLLR
CTLCLK
CTLDAT
NDACRST
NJM2115MTE1
IC331
VCOM
Filter
TP302
AOUTL
AOUTR
CTF
SCF
De-emphasis control
Serial input interface
Modulator
8x interpolator
PD
SMUTE
DFS
TTL
DZF
BVDD
Clock OSC/Divider
DVSS
DVDD
VREF
CKS
XTO
XTI


AK4321VF-E1
IC901
AD/DA CONVERTER
NJM2115MTE1
IC902
Buffer amp.
+B8
SDATA
BICK
LRCK
PD
TTL
SCLK
SLRCK
NDACRST
DIF0
DIF1
DEM0
DEM1
AVDD
AVSS
Serial input interface
De-emphasis control
VCOM
8x interpolator
Modulator
SCF
CTF
AOUTL
AOUTR
NJM4580EDTE1
IC903(904)
LINE OUT (Lch)
Q905,907 (Q906,908)
Muting
RL901
+B6
R ch
Clock OSC/Divider
XTI
XTO
CKS
BVDD
VREF
DVDD
DVSS
SMUTE
Q903
D902,903
SMCK
MUTE
Q901,902
Muting drive
TP807
TP808
+B1
-B
Q851,853
Q852,854
Regulator
ICP851
ICP854
D851
D852
To FL DISPLAY (FL401)
F1
F2
-VP
Q811~813
FL drive
Q817,D814
ICP818
D813
D812
BA09ST-V5
IC811
TP806
D839
+B2
Q833
ICP836
RL701
Q709
Relay drive
PWROFF
P.supply cont.
Q834
BA09ST-V5
IC831
TP805
+B3
D834~837
BA033ST-V5
IC833
TP803
+B5
D408
Q821
LED drive
Q835
Q831
S801 (POWER)
BA05ST-V5
IC821
TP802
D826
+B6
D821~824
UPC29L04J-T
IC822
TP801
D825
+B7
TP804
+B4
+B8
BA05ST-V5
IC832
Q832
DABOFF
D827
XC62FP3302MR
IC905
ACDET
T801
POWER TRANSFORMER
F1
L801
AC IN
Z801
Notes)
● Signal line : FM signal : AM signal
: FM OSC signal : AM OSC signal
: DAB signal
● ( ) indicates pin No. of right channel.

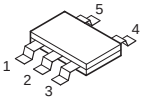
MN1021617BA	128PIN
MN66710	84PIN

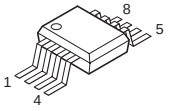




W24258S70LET	28PIN
LC72722PMTLM	24PIN
AK4321VF-E1	24PIN
BU2090AFE2	16PIN
LA1833MN-TLM	24PIN
LC72131MDTLM	20PIN

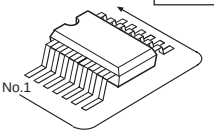
S80725SNDNT1



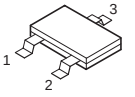


NJM2115MTE1
NJM4580EDTE1
NJM318MTE1
AK93C85AM-E1

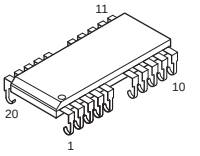
TC74HCT7007A	14PIN
TC74HC4050EL	16PIN



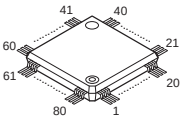
XC62FP3302MR



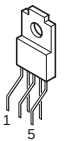
M514400D6SJ1



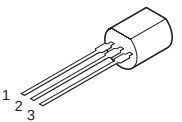
MSM920101GSK

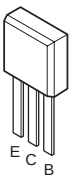


BA05ST-V5
BA09ST-V5
BA033ST-V5



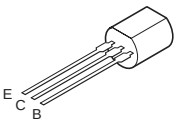
UPC29L04J-T



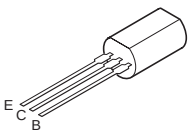


2SC2787LTA
UN4111TA
2SC3311ARSTA
UN4214TA
UN4114TA
2SD1450RSTA
DTC143ZSATP

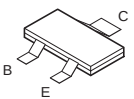
2SB621AQSTA



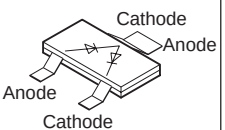
2SC3940AQSTA



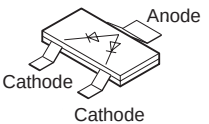
2SD1328TX
DTA114YUT106
DTC114YUT106



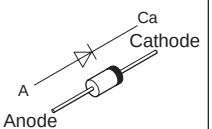
MA153TX



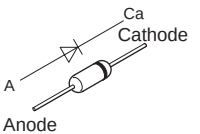
MA142WATX



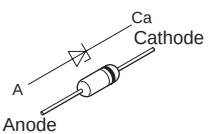
RL1N4003N02



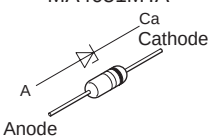
MA165TA



MA4360MTA
MA4160MTA



MA4091LTA
MA4033MTA
MA4051MTA



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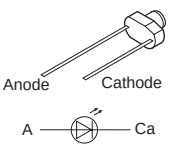


12 Replacement Parts List

TOP PREVIOUS NEXT

Notes:

- Important safety notice:
  Components identified by⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

- The<IA> marks in Remarks indicates language of instruction manual.
  <IA> : English, German

- The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

- The marking (RTL) indicates that Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availabilityis dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

- All parts are supplied by MESA.

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
1	RKM0078A-1K	TOP COVER	1	
2	SNE2129-3	SCREW	4	
3	XTBS3+8JFZ1	SCREW	2	
4	RMZ0339	ZNR COVER	1	
5	XYN3+F8	SCREW	3	
6	RHN94002	NUT	1	
7	RHW10008	WASHER	1	
8	RKA0053-A	FOOT	4	
8-1	RMG0270-K	RUBBER	4	
9	RDG0449	DAMPER GEAR	2	
10	RGB0031-A	TECHNICS BADGE	1	
11	RGB0111-N	DAB BADGE	1	
12	RGG0169-K	PANEL	1	
13	RGK1111-K	NUT	4	
14	RGK1168-K	RING ORNAMENT 1	1	
15	RGK1169-K	RING ORNAMENT 2	2	
16	RGK1170-K1	FL PANEL	1	
17	RGK1171-K	DISPLAY 1	1	
18	RGK1172-K	DISPLAY 2	1	
19	RGL0267-Q	LED INDICATER	1	
20	RGL0453-Q	PANEL LIGHT 1	2	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
21	RGP0742-K	SUB GRILL	1	
22	RGP0743A-K	GRILL	1	
23	RGU0890-1K	BUTTON,POWER	1	
24	RGU1712-K	BUTTON,OPEN	1	
25	RGU1775-K	BUTTON,DATA	1	
26	RGU1776-K	BUTTON,MENU	1	
27	RGU1777-K	BUTTON,SELECT	1	
28	RGW0322-K	KNOB	1	
29	RGW0323-K	KNOB	1	
30	RGW0324-K	KNOB	2	
31	RHD26033	SCREW	4	
32	RHD26034	SCREW	3	
33	RHN70002	NUT	2	
34	RKF0595-Q	DOOR	1	
35	RKG0009	MAGNET	1	
36	RKW0273A-K	FILTER	1	
37	RME0284	SPRING	1	
38	RME0305	SPRING	1	
39	RMR1202-K	DOOR ARM(L)	1	
40	RMR1203-K	DOOR ARM(R)	1	
41	RMR1204-K	MAGNET HOLDER	1	
42	RMR1205-K	DAMPER HOLDER	2	
43	RMR1206-K	DAMPER(R)	1	
44	RMR1207-K	DAMPER(L)	1	
45	XTBS26+8J	SCREW	24	
46	XTS2+4GFZ	SCREW	4	
47	XTBS3+8JFZ1	SCREW	13	
48	XTB3+20JFZ	SCREW	3	
49	XTB3+6G	SCREW	4	
50	XTB3+8JFZ	SCREW	3	
A1	RAK-STA23WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATTERY COVER	1	
A2	RFE0014	PLUG ADAPTOR	1	⚠
A3	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)⚠
A3	RJA0019-2K	AC POWER SUPPLY CORD	1	(EG)⚠
A4	RJL4P004B08	STEREO PIN CORD	1	
A5	RQA0117	WARRANTY CARD	1	
A6	RQCB0169	SERVICE CENTER LIST	1	
A7	RQT5077-E	OPERATING INSTRUCTIONS	1	<IA>
A8	RSA0007	FM INDOOR ANTENNA	1	
A9	RSA0022-J	AM LOOP ANTENNA	1	
A10	RSA0028	ANTENA	1	
A11	SJP9009	AC PLUG ADAPTOR	1	(EB)⚠
C101	ECBT1C103NS5	16V 0.01U	1	
C101A	ECEA0JKS101	6.3V 100U	1	
C102	ECEA1CKS101	16V 100U	1	
C102A	RCE1AKA101BG	10V 100U	1	
C103	ECBT1C103NS5	16V 0.01U	1	
C103A	RCE1CKA100BG	16V 10U	1	
C104	ECBT1H102KB5	50V 1000P	1	
C104A	RCE1AKA101BG	10V 100U	1	
C105	ECBT1H102KB5	50V 1000P	1	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
C105A	ECEA0JKS101	6.3V 100U	1	
C106	ECBT1C103NS5	16V 0.01U	1	
C106A	ECEA0JKS101	6.3V 100U	1	
C107	ECBT1H473ZF5	50V 0.047U	1	
C108	ECBT1H8R2KC5	50V 8.2P	1	
C109	ECBT1H102KB5	50V 1000P	1	
C110	ECBT1C103NS5	16V 0.01U	1	
C111	ECEA1EKS4R7	25V 4.7U	1	
C112	ECBT1C103NS5	16V 0.01U	1	
C112A	ECUVNC104KBV	16V 0.1U	1	
C113	ECBT1H102KB5	50V 1000P	1	
C114	RCE1HKA3R3BG	50V 3.3U	1	
C114A	ECUVNC104ZFV	16V 0.1U	1	
C115	ECEA1EKS4R7	25V 4.7U	1	
C115A	ECUVNC104ZFV	16V 0.1U	1	
C116	ECFR1C333KR	16V 0.033U	1	
C116A	ECEA0JKS101	6.3V 100U	1	
C117	ECFR1C183KR	16V 0.018U	1	
C117A	ECA1EM101	25V 100U	1	
C118	ECFR1C183KR	16V 0.018U	1	
C118A	ECUVNC104ZFV	16V 0.1U	1	
C119	ECQP1391JZ	100V 390P	1	
C119A	ECA1EM101	25V 100U	1	
C120	RCE1CKA100BG	16V 10U	1	
C121	RCE1HKAR47BG	50V 0.47U	1	
C122,23	ECEA1HKS010	50V 1U	2	
C124	ECBT1H101KB5	50V 100P	1	
C125	ECEA1CKS220	16V 22U	1	
C126	ECBT1H473ZF5	50V 0.047U	1	
C127	ECEA1CKS220	16V 22U	1	
C129,30	ECEA0JKS101	6.3V 100U	2	
C131	ECBT1H101KB5	50V 100P	1	
C132	ECBT1H102KB5	50V 1000P	1	
C133,34	ECBT1H270JU5	50V 27P	2	
C136	ECBT1H102KB5	50V 1000P	1	
C137	ECFR1E472KR	25V 4700P	1	
C138	ECBT1C103KS5	16V 0.01U	1	
C139	ECFR1E472KR	25V 4700P	1	
C141,42	ECEA1HKS010	50V 1U	2	
C143,44	ECBT1C472KR5	16V 4700P	2	
C147	ECBT1H102KB5	50V 1000P	1	
C148	ECBT1C103NS5	16V 0.01U	1	
C149	ECBT1H104ZF5	50V 0.1U	1	
C201,02	ECEA0JKS101	6.3V 100U	2	
C203	ECUVNC104ZFV	16V 0.1U	1	
C204	ECUV1H561JCV	50V 560P	1	
C205	ECUV1H331JCV	50V 330P	1	
C206,07	ECUV1H470JCV	50V 47P	2	
C208	ECUVNC104ZFV	16V 0.1U	1	
C209	ECEA0JKS101	6.3V 100U	1	
C210	ECBT1H104ZF5	50V 0.1U	1	
C211	ECUVNC104ZFV	16V 0.01U	1	
C212,13	ECBT1H104ZF5	50V 0.1U	2	
C301	ECUVNC104ZFV	16V 0.1U	1	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
C302,03	ECUV1H150JCV	50V 15P	2	
C304	ECEA0JKS101	6.3V 100U	1	
C305-11	ECUVNC104ZFV	16V 0.1U	7	
C312	ECEA0JKS101	6.3V 100U	1	
C313	ECUVNC104ZFV	16V 0.1U	1	
C314	ECUV1H010CCV	50V 1P	1	
C321	ECEA0JKS101	6.3V 100U	1	
C322	ECUVNC104ZFV	16V 0.1U	1	
C323	ECEA0JKS101	6.3V 100U	1	
C324	ECUVNC104ZFV	16V 0.1U	1	
C325	RCE1CKA470BG	16V 47U	1	
C326,27	ECUVNC104ZFV	16V 0.1U	2	
C328	ECUV1H102KBV	50V 1000P	1	
C331-34	ECUV1H391JCV	50V 390P	4	
C335	ECUVNC104ZFV	16V 0.1U	1	
C336	ECEA0JKS101	6.3V 100U	1	
C401	ECUV1H104ZFN	50V 0.1U	1	
C402	ECEA1HKA100I	50V 10U	1	
C403,04	ECUV1H104ZFN	50V 0.1U	2	
C409	ECUV1H390JCN	50V 39P	1	
C410	ECUV1H104ZFN	50V 0.1U	1	
C411	ECEA0JKS101	6.3V 100U	1	
C412-14	ECUV1H104ZFN	50V 0.1U	3	
C417	ECUV1H104ZFN	50V 0.1U	1	
C418	ECBT1H104ZF5	50V 0.1U	1	
C420,21	ECEA1HKA100I	50V 10U	2	
C501	ECUVNC104ZFV	16V 0.1U	1	
C510-13	ECUVNC104ZFV	16V 0.1U	4	
C514	ECEA0JKS101	6.3V 100U	1	
C515,16	ECUVNC104ZFV	16V 0.1U	2	
C517	ECEA0JKS101	6.3V 100U	1	
C526-30	ECUVNC104ZFV	16V 0.1U	5	
C601-03	ECUVNC104ZFV	16V 0.1U	3	
C701,02	ECUVNC104ZFV	16V 0.1U	2	
C703	ECEA0JKS101	6.3V 100U	1	
C810	RCE1CKA470BG	16V 47U	1	
C811	ECBT1H104ZF5	50V 0.1U	1	
C812	ECA1HM101	50V 100U	1	
C813	ECA1HM101	50V 100U	1	⚠
C814	ECBT1C103NS5	16V 0.01U	1	
C815	ECEA1HKA220B	50V 22U	1	
C816	ECBT1H104ZF5	50V 0.1U	1	
C821	ECFTD103KXL	50V 0.01U	1	
C822	ECA1CM103E	16V 1000U	1	⚠
C823	ECBT1C103NS5	16V 0.01U	1	
C824	ECEA0JKS101	6.3V 100U	1	
C825	ECBT1C103NS5	16V 0.01U	1	
C826	ECEA0JKS101	6.3V 100U	1	
C827	ECA0JM472E	6.3V 4700U	1	
C828	ECBT1C103NS5	16V 0.01U	1	
C829	ECEA0JKS101	6.3V 100U	1	
C832	ECFTD103KXL	50V 0.01U	1	
C833	ECA1EM472	25V 4700U	1	⚠
C834	ECBT1H104ZF5	50V 0.1U	1	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
C835	ECEA1CKS101	16V 100U	1	
C837	ECBT1C103NS5	16V 0.01U	1	
C838	ECEA0JKS101	6.3V 100U	1	
C839	ECBT1C103NS5	16V 0.01U	1	
C840	RCE1CKA470BG	16V 47U	1	
C842	ECBT1H104ZF5	50V 0.1U	1	
C843	ECEA1CKS101	16V 100U	1	
C851	ECFTD103KXL	50V 0.01U	1	
C852,53	RCE1EM471BV	25V 470U	2	
C854,55	ECBT1C103NS5	16V 0.01U	2	
C856,57	ECEA1EKA220B	25V 22U	2	
C858,59	ECBT1H104ZF5	50V 0.1U	2	
C860,61	ECA1EM221	25V 220U	2	
C901	ECEA0JKS101	6.3V 100U	1	
C902	ECUVNC104ZFV	16V 0.1U	1	
C903	ECA0JM102	6.3V 1000U	1	
C904	ECUVNC104ZFV	16V 0.1U	1	
C905	ECEA0JKS101	6.3V 100U	1	
C906,07	ECUVNC104ZFV	16V 0.1U	2	
C908,09	ECUV1H180JCV	50V 18P	2	
C910,11	ECA1EM101	25V 100U	2	
C913,14	RCE1CKA470BG	16V 47U	2	
C915-18	ECUV1H220JCV	50V 22P	4	
C919,20	ECEA1CN470SB	16V 47U	2	
C921,22	ECUV1H102KBV	50V 1000P	2	
C923	ECA1CM471	16V 470U	1	
C924,25	ECUV0J105ZFV	6.3V 1U	2	
CF201	RLFFETNGD01L	CERAMIC FILTER	1	
CF202	RLFFETMGD01L	CERAMIC FILTER	1	
CN101B, 2B	RJU100W07	CONNECTOR(7P)	2	
CN201A	RJT057W007-1	CONNECTOR(7P)	1	
CN201B	RJU057W007	CONNECTOR(7P)	1	
CN202A	RJT057W007-1	CONNECTOR(7P)	1	
CN202B	RJU057W007	CONNECTOR(7P)	1	
CN203, 04	RJT100W07	CONNECTOR(7P)	2	
CN401	RJS1A6607T1	CONNECTOR(7P)	1	
CN402	RJS1A6603	CONNECTOR(3P)	1	
CN403	RJS1A6607T1	CONNECTOR(7P)	1	
CN405	RJS2A1506	CONNECTOR(6P)	1	
CN406	RJS1A6604	CONNECTOR(4P)	1	
CN407	RJS1A6606	CONNECTOR(6P)	1	
CN801	RJS1A6606	CONNECTOR(6P)	1	
CN802	RJS1A6607T1	CONNECTOR(7P)	1	
CN804	RJS1A6604	CONNECTOR(4P)	1	
D101	MA4051M	DIODE	1	⚠
D111	MA153TX	DIODE	1	
D401-10	SLR325VCT31	LED	10	
D811	MA165	DIODE	1	
D812,13	RL1N4003N02	DIODE	2	⚠
D814	MA4360MTA	DIODE	1	⚠
D821-25	RL1N4003N02	DIODE	5	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
D826,27	MA165	DIODE	2	
D831,32	MA165	DIODE	2	
D833	MA4033M	DIODE	1	
D834-37	RL1N4003N02	DIODE	4	⚠
D838	MA4091L	DIODE	1	⚠
D839	RL1N4003N02	DIODE	1	
D851,52	RL1N4003N02	DIODE	2	⚠
D853,54	MA4160M	DIODE	2	⚠
D855	MA165	DIODE	1	
D901	RL1N4003N02	DIODE	1	
D902,03	MA142WATX	DIODE	2	
F1	XBA2C20TB0	FUSE	1	⚠
FL401	RSL0286-F	FL DISPLAY	1	
IC101	LA1833MN-TLM	IC	1	
IC102	LC72131MDTLM	IC	1	
IC111	NJM318MTE1	IC	1	
IC201	LC72722PMTLM	IC	1	
IC301	MN66710	IC	1	
IC302	M514400D6SJ1	IC	1	
IC321	AK4321VF-E1	IC	1	
IC331	NJM2115MTE1	IC	1	
IC401	MSM920101GSK	IC	1	
IC402	BU2090AFE2	IC	1	
IC501	MN1021617BA	IC	1	
IC502	W24258S70LET	IC	1	
IC503	AK93C85AM-E1	IC	1	
IC504	S80725SNDNT1	IC	1	
IC601,02	TC74HCT7007A	IC	2	
IC603	TC74HC4050EL	IC	1	
IC811	BA09ST-V5	IC	1	⚠
IC821	BA05ST-V5	IC	1	⚠
IC822	UPC29L04J-T	IC	1	⚠
IC831	BA09ST-V5	IC	1	⚠
IC832	BA05ST-V5	IC	1	⚠
IC833	BA033ST-V5	IC	1	⚠
IC901	AK4321VF-E1	IC	1	
IC902	NJM2115MTE1	IC	1	
IC903,04	NJM4580EDTE1	IC	2	
IC905	XC62FP3302MR	IC	1	⚠
ICP818	SRUN10	IC PROTECTOR	1	⚠
ICP836	SRUN10	IC PROTECTOR	1	⚠
ICP851	SRUN10	IC PROTECTOR	1	⚠
ICP854	SRUN10	IC PROTECTOR	1	⚠
JK101	RJH5210M	JACK,ANTENNA	1	
JK701 ,02	T0TX178	JACK,OPTICAL OUT	2	
JK801	SJS9236	JACK,AC INLET	1	⚠
JK901	RJH3201A	JACK,LINE OUT	1	
L101	ELESNR68MA	COIL	1	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
L101A	ELJPC100KF	COIL	1	
L102	ELESNR68MA	COIL	1	
L102A	ELJPC100KF	COIL	1	
L103	ELEXTR47MA9	COIL	1	
L103A	ELJPC100KF	COIL	1	
L105,06	ELJPC100KF	COIL	2	
L201	ELJPC100KF	COIL	1	
L301,02	ELJPC100KF	COIL	2	
L321	ELJPC100KF	COIL	1	
L401	ELJPC100KF	COIL	1	
L501,02	ELJPC100KF	COIL	2	
L801	RLQZ371	COIL	1	⚠
P1	RPQ0164	PAD	1	
P2	RPF0139	PROTECTION COVER	1	
P3	RPG4603	PACKING CASE	1	(EB)
P3	RPG4520	PACKING CASE	1	(EG)
P4	RPN1206	PAD	1	
P5	RPQ0976	PAD	1	(EB)
P6	XZB10X30C03	COVER	1	(EB)
P7	SPP756	SHEET	1	
PCB1	REP2868A-M	MAIN PCB	1	(RTL)
PCB2	REP2592C-T	TUNER PCB	1	(RTL)
PCB3	REP2872AA-S	BATTERY PCB	1	(RTL)
PCB4	REP2872AD-S	FM/AM PCB	1	(RTL)
PCB5	REP2870A-S	OPERATION PCB	1	(RTL)
PCB6	REP2872AB-S	BATTERY SW PCB	1	(RTL)
PCB7	REP2872AC-S	RADIAL PCB	1	(RTL)
Q101,02	2SC2787FK	TRANSISTOR	2	
Q106	UN4111	TRANSISTOR	1	
Q110	2SC3311AR	TRANSISTOR	1	
Q811,12	2SD1450S	TRANSISTOR	2	
Q813	UN4114TA	TRANSISTOR	1	
Q816	DTC143ZSATP	TRANSISTOR	1	
Q817	2SB621A-R	TRANSISTOR	1	⚠
Q821	UN4214TA	TRANSISTOR	1	
Q831,32	UN4214TA	TRANSISTOR	2	
Q833	2SC3940AQSTA	TRANSISTOR	1	⚠
Q834,35	UN4214TA	TRANSISTOR	2	
Q851	2SC3940AQSTA	TRANSISTOR	1	⚠
Q852	2SB621A-R	TRANSISTOR	1	⚠
Q901	DTC114YUT106	TRANSISTOR	1	
Q902	DTA114YUT106	TRANSISTOR	1	
Q903	DTC114YUT106	TRANSISTOR	1	
Q905-08	2SD1328QRSTX	TRANSISTOR	4	
R101	ERJ3GEYJ101V	1/16W 100	1	
R102	ERDS2FJ472	1/4W 4.7K	1	
R103	ERDS2FJ101	1/4W 100	1	
R104	ERDS2FJ103	1/4W 10K	1	
R105	ERDS2FJ471	1/4W 470	1	
R106	ERDS2FJ474	1/4W 470K	1	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
R107	ERDS2FJ331	1/4W 330	1	
R108	ERDS2FJ474	1/4W 470K	1	
R109	ERDS2FJ331	1/4W 330	1	
R110	ERDS2FJ102	1/4W 1K	1	
R111	ERDS2FJ391	1/4W 390	1	
R111A	ERA3YED472	1/16W 4.7K	1	
R112	ERDS2FJ104	1/4W 100K	1	
R112A	ERA3YED472	1/16W 4.7K	1	
R113	ERDS2FJ103	1/4W 10K	1	
R113A	ERJ3GEYJ272V	1/16W 2.7K	1	
R114	ERDS2FJ562	1/4W 5.6K	1	
R115	ERDS2FJ561	1/4W 560	1	
R115A	ERJ8GEYJ151V	1/8W 150	1	
R116	ERDS2FJ102	1/4W 1K	1	
R117	ERDS2FJ683	1/4W 68K	1	
R118	ERDS2FJ332	1/4W 3.3K	1	
R119	ERDS2FJ103	1/4W 10K	1	
R120	ERDS2FJ473	1/4W 47K	1	
R121	ERDS2FJ223	1/4W 22K	1	
R122	ERDS2FJ272	1/4W 2.7K	1	
R123	ERDS2FJ683	1/4W 68K	1	
R124	ERDS2FJ271	1/4W 270	1	
R125	ERDS2FJ471	1/4W 470	1	
R126	ERDS2FJ152	1/4W 1.5K	1	
R127	ERDS2FJ471	1/4W 470	1	
R128	ERDS2FJ820	1/4W 82	1	
R129	ERDS2FJ273	1/4W 27K	1	
R130	ERDS2FJ103	1/4W 10K	1	
R131	ERDS2FJ680	1/4W 68	1	
R132	ERDS2FJ103	1/4W 10K	1	
R133	ERDS2FJ102	1/4W 1K	1	
R134	ERDS2FJ471	1/4W 470	1	
R135-37	ERDS2FJ102	1/4W 1K	3	
R138,39	ERDS2FJ332	1/4W 3.3K	2	
R140	ERDS2FJ472	1/4W 4.7K	1	
R141,42	ERDS2FJ102	1/4W 1K	2	
R143	ERDS2FJ223	1/4W 22K	1	
R145,46	ERDS2FJ104	1/4W 100K	2	
R201	ERJ3GEY0R00V	1/16W 0	1	
R202	ERJ3GEYJ101V	1/16W 100	1	
R203	ERJ3GEYJ332V	1/16W 3.3K	1	
R204	ERJ3GEYJ102Z	1/16W 1K	1	
R210	ERDS2FJ101	1/4W 100	1	
R211	ERDS2FJ102	1/4W 1K	1	
R212	ERDS2FJ101	1/4W 100	1	
R213	ERDS2FJ102	1/4W 1K	1	
R214	ERDS2FJ101	1/4W 100	1	
R215	ERDS2FJ102	1/4W 1K	1	
R216	ERDS2FJ101	1/4W 100	1	
R217	ERDS2FJ102	1/4W 1K	1	
R301	EXBV4V470J	1/32W 47	1	
R302,03	ERJ3GEYJ470V	1/16W 47	2	
R304	ERJ3GEYJ102Z	1/16W 1K	1	
R305	ERJ3GEYJ103Z	1/16W 10K	1	

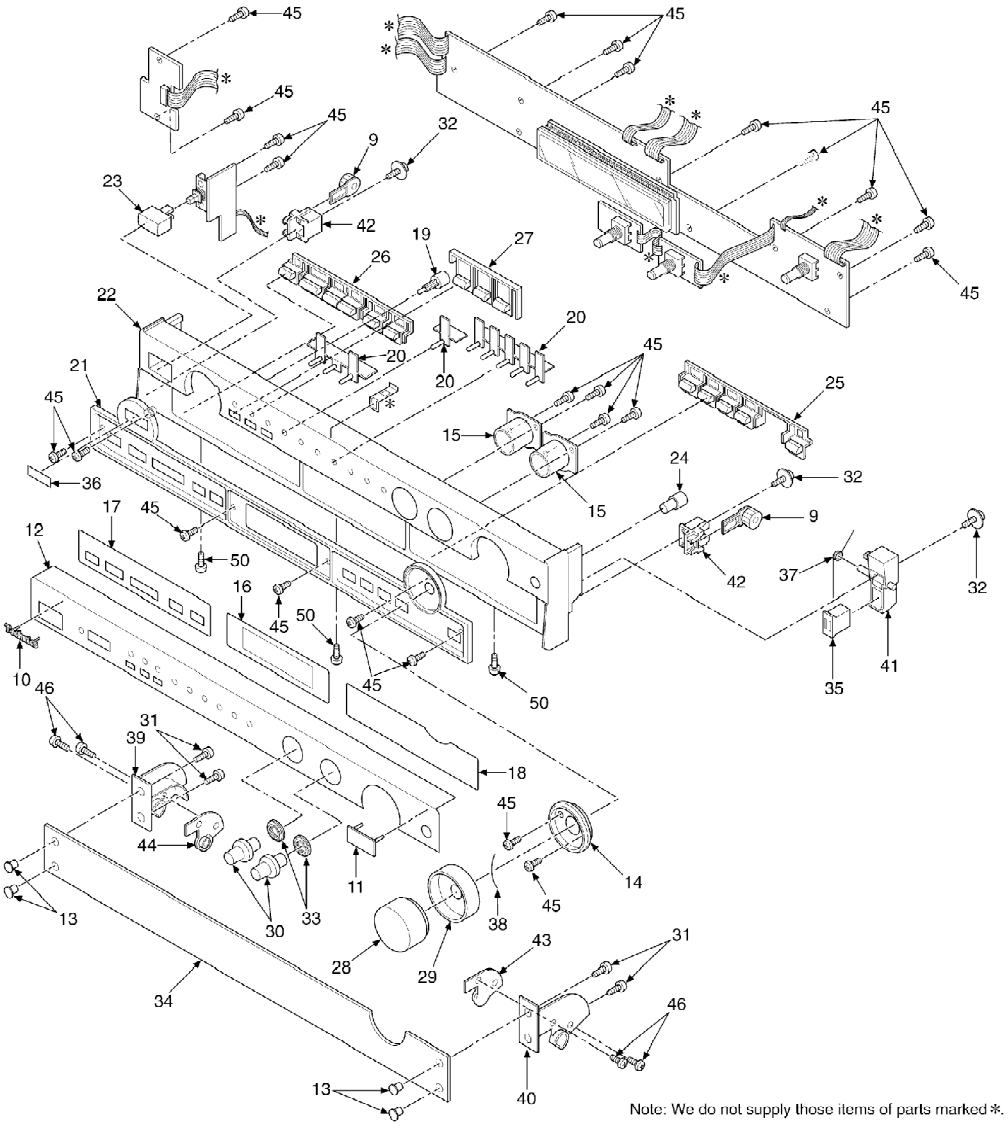
Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
R306	EXBV8V102J	1/16W 1K	1	
R307	ERJ3GEYJ102Z	1/16W 1K	1	
R308	ERJ3GEYJ103Z	1/16W 10K	1	
R309-11	EXBV8V470J	1/16W 47	3	
R313,14	EXBV8V470J	1/16W 47	2	
R315	ERJ3GEYJ103Z	1/16W 10K	1	
R316	ERJ3GEY0R00V	1/16W 0	1	
R317	EXBV8V102J	1/16W 1K	1	
R318	ERJ3GEYJ103Z	1/16W 10K	1	
R319,20	ERJ3GEYD103V	1/16W 10K	2	
R321	ERJ3GEYJ103Z	1/16W 10K	1	
R322	EXBV4V103JV	1/32W 10K	1	
R331,32	ERJ3GEYJ123V	1/16W 12K	2	
R333	ERJ3GEYJ153V	1/16W 15K	1	
R334-36	ERJ3GEYJ123V	1/16W 12K	3	
R337	ERJ3GEYJ153V	1/16W 15K	1	
R338	ERJ3GEYJ123V	1/16W 12K	1	
R339,40	ERJ3GEYJ222V	1/16W 2.2K	2	
R341	ERJ3GEYJ101V	1/16W 100	1	
R342	ERJ3GEYJ102Z	1/16W 1K	1	
R401	ERJ6GEYJ332V	1/10W 3.3K	1	
R402-04	ERJ6GEYJ102Z	1/10W 1K	3	
R405	ERJ6GEYJ221V	1/10W 220	1	
R406	ERJ6GEYJ102Z	1/10W 1K	1	
R407	ERJ6GEYJ221V	1/10W 220	1	
R408	ERJ6GEYJ102Z	1/10W 1K	1	
R409-13	ERJ6GEYJ221V	1/10W 220	5	
R414	ERJ6GEYD102V	1/10W 1K	1	
R415	ERJ6GEYD122V	1/10W 1.2K	1	
R416	ERJ6GEYD102V	1/10W 1K	1	
R417	ERJ6GEYD152V	1/10W 1.5K	1	
R418	ERJ6GEYD122V	1/10W 1.2K	1	
R419	ERJ6GEYD182V	1/10W 1.8K	1	
R420	ERJ6GEYD152V	1/10W 1.5K	1	
R421	ERJ6GEYD222V	1/10W 2.2K	1	
R422	ERJ6GEYD182V	1/10W 1.8K	1	
R423	ERJ6GEYD332V	1/10W 3.3K	1	
R424	ERJ6GEYD222V	1/10W 2.2K	1	
R425	ER0S2CKF4701	1/4W 4.7K	1	
R426	ER0S2TKF6801	1/4W 6.8K	1	
R427	ERJ6GEYJ221V	1/10W 220	1	
R428	ERDS2FJ561	1/4W 560	1	
R429	ERJ6GEYJ221V	1/10W 220	1	
R501	ERJ3GEYJ470V	1/16W 47	1	
R502,03	EXBV8V470J	1/16W 47	2	
R504,05	EXBV8V101J	1/16W 100	2	
R506,07	ERJ3GEYJ103Z	1/16W 10K	2	
R508-10	ERJ3GEYJ102Z	1/16W 1K	3	
R511	EXBV8V470J	1/16W 47	1	
R512	EXBV8V102J	1/16W 1K	1	
R513	ERJ3GEYJ102Z	1/16W 1K	1	
R515,16	EXBV8V102J	1/16W 1K	2	
R517	EXBV4V102J	1/32W 1K	1	
R518,19	ERJ3GEYD103V	1/16W 10K	2	

Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
R520-22	ERJ3GEY0R00V	1/16W 0	3	
R524	EXBV8V103J	1/16W 10K	1	
R525	EXBV4V470J	1/32W 47	1	
R526,27	EXBV8V101J	1/16W 100	2	
R528,29	EXBV8V470J	1/16W 47	2	
R530	ERJ3GEYJ470V	1/16W 47	1	
R531	EXBV8V470J	1/16W 47	1	
R532,33	ERJ3GEYJ470V	1/16W 47	2	
R534	ERJ3GEYJ153V	1/16W 15K	1	
R535	ERJ3GEYJ221V	1/16W 220	1	
R536	ERJ3GEYJ101V	1/16W 100	1	
R537	ERJ3GEYJ332V	1/16W 3.3K	1	
R538	EXBV8V102J	1/16W 1K	1	
R601	EXBV4V101J	1/32W 100	1	
R603-05	ERJ3GEYJ102Z	1/16W 1K	3	
R606-08	ERJ3GEYJ101V	1/16W 100	3	
R609	ERJ3GEYJ102Z	1/16W 1K	1	
R611-13	ERJ3GEYJ102Z	1/16W 1K	3	
R614	ERJ3GEYJ153V	1/16W 15K	1	
R802	ERQ16NKWR15E	1/6W 0.15	1	⚠
R803	ERQ16NKWR10E	1/6W 0.1	1	⚠
R811,12	ERDS2FJ183	1/4W 18K	2	
R813	ERDS2FJ2R2	1/4W 2.2	1	
R814,15	ERDS2FJ681	1/4W 680	2	⚠
R818	ERDS2FJ2R2	1/4W 2.2	1	
R819	ERDS2FJ222	1/4W 2.2K	1	
R820	ERDS2FJ221	1/4W 220	1	
R821,22	ERDS2FJ103	1/4W 10K	2	
R823	ERDS2FJ473	1/4W 47K	1	
R830	ERDS2FJ104	1/4W 100K	1	
R831,32	ERDS2FJ222	1/4W 2.2K	2	
R833	ERDS2FJ473	1/4W 47K	1	
R834,35	ERDS2FJ103	1/4W 10K	2	
R837	ERDS2FJ222	1/4W 2.2K	1	
R838	ERDS2FJ221	1/4W 220	1	
R852	ERDS2FJ222	1/4W 2.2K	1	
R853	ERDS2FJ221	1/4W 220	1	
R855	ERDS2FJ222	1/4W 2.2K	1	
R856	ERDS2FJ221	1/4W 220	1	
R901	ERJ3GEYJ103Z	1/16W 10K	1	
R902	EXBV4V103JV	1/32W 10K	1	
R903	ERJ3GEYJ100V	1/16W 10	1	
R904	ERJ3GEYJ332V	1/16W 3.3K	1	
R905,06	ERJ3GEYD103V	1/16W 10K	2	
R907,08	ERJ3GEYD223V	1/16W 22K	2	
R909,10	ERJ3GEYD682V	1/16W 6.8K	2	
R911,12	ERJ3GEYD123V	1/16W 12K	2	
R913,14	ERJ3GEYD682V	1/16W 6.8K	2	
R915,16	ERJ3GEYD123V	1/16W 12K	2	
R917	ERJ3GEYJ331V	1/16W 330	1	
R918,19	ERJ3GEYJ103Z	1/16W 10K	2	
R920	ERJ3GEYJ331V	1/16W 330	1	
R921	ERJ3GEYJ151V	1/16W 150	1	
R922,23	ERJ3GEYJ103Z	1/16W 10K	2	

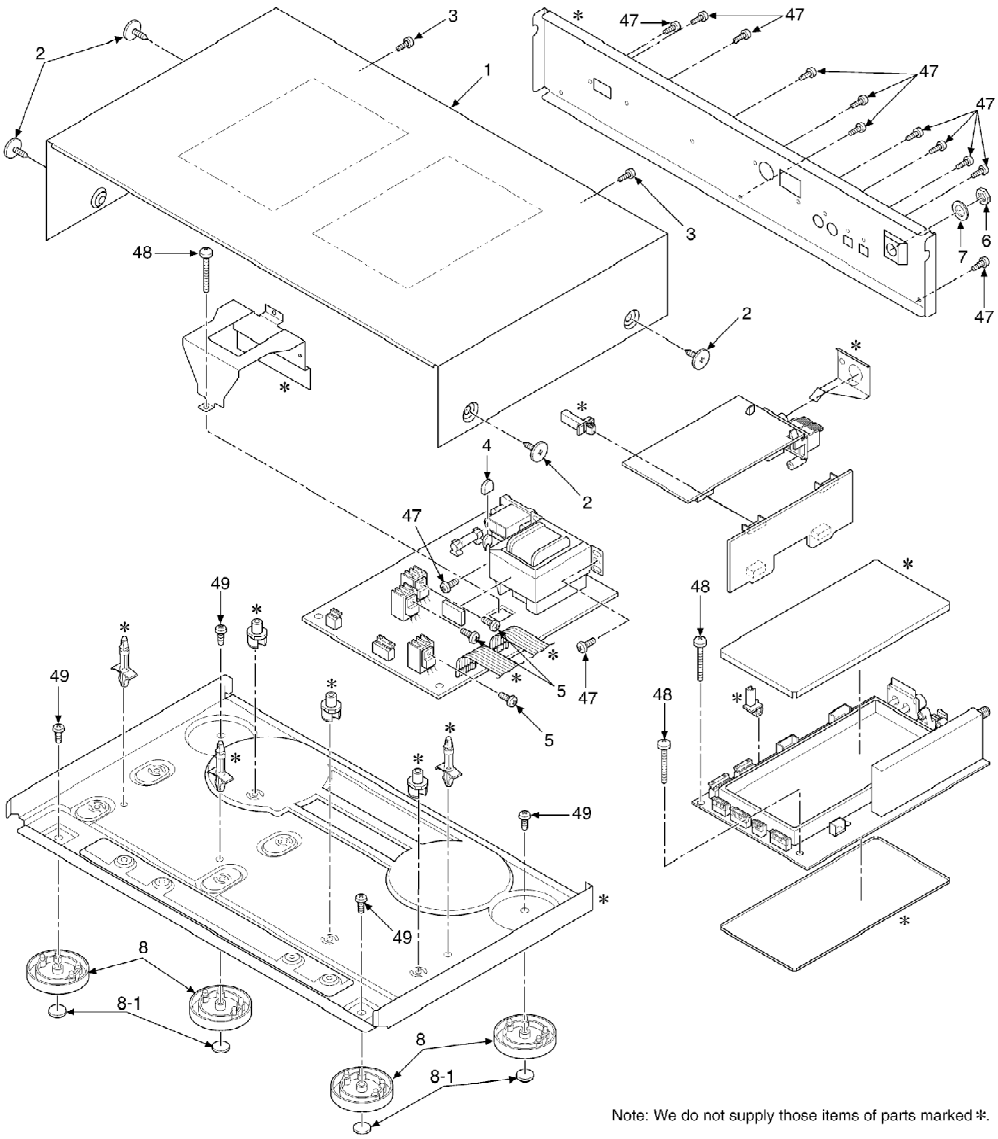
Ref. No.	Part No.	Part Name& Description	Pcs.	Remarks
R924	ERJ3GEYJ151V	1/16W 150	1	
R925,26	ERJ3GEYJ473V	1/16W 47K	2	
R927	ERJ3GEYJ222V	1/16W 2.2K	1	
R931,32	ERJ3GEY0R00V	1/16W 0	2	
R933,34	ERJ3GEYD103V	1/16W 10K	2	
R935,36	ERJ3GEYD222V	1/16W 2.2K	2	
RJ101	ERJ3GEY0R00V	1/16W 0	1	
RL811	RSY0041M-0	RELAY	1	⚠
RL901	RSY0044M-A	RELAY	1	
S401-14	EVQ11G05R	SW,PUSH	14	
S801	RSP2B023-A	SW,UNIT ON/OFF	1	⚠
T801	RTP1L4E007-V	POWER TRANSFORMER	1	⚠
VR413	RRV11EAC20-A	VR,SERVICE/FREQUENCY	1	
VR414	RRV11B152A-A	VR,PTY SELECT	1	
VR415	RRV11B1504-A	VR,PRESET	1	
X102	RLFDFT13DD	OSCILLATOR	1	
X103	RSXC7M20S05T	OSCILLATOR	1	
X201	RSXC4M33S02T	OSCILLATOR	1	
X301	RSXC2457S01T	OSCILLATOR	1	
X501	RSXY1966M02T	OSCILLATOR	1	
Z101	RAL0042	COMPONENT COMBINATION	1	
Z101A	RLA2Z006M-T	DAB RF TUNER	1	
Z102	RLI2Z022M-T	COMPONENT COMBINATION	1	
Z120	RAL0035	FM FRONT END	1	
Z401	RCD12042TE	REMOTE SENSOR	1	
Z801	ERZV10V511CS	COMPONENT COMBINATION	1	⚠

TOP PREVIOUS NEXT

13 Cabinet Parts Location



Note: We do not supply those items of parts marked *.

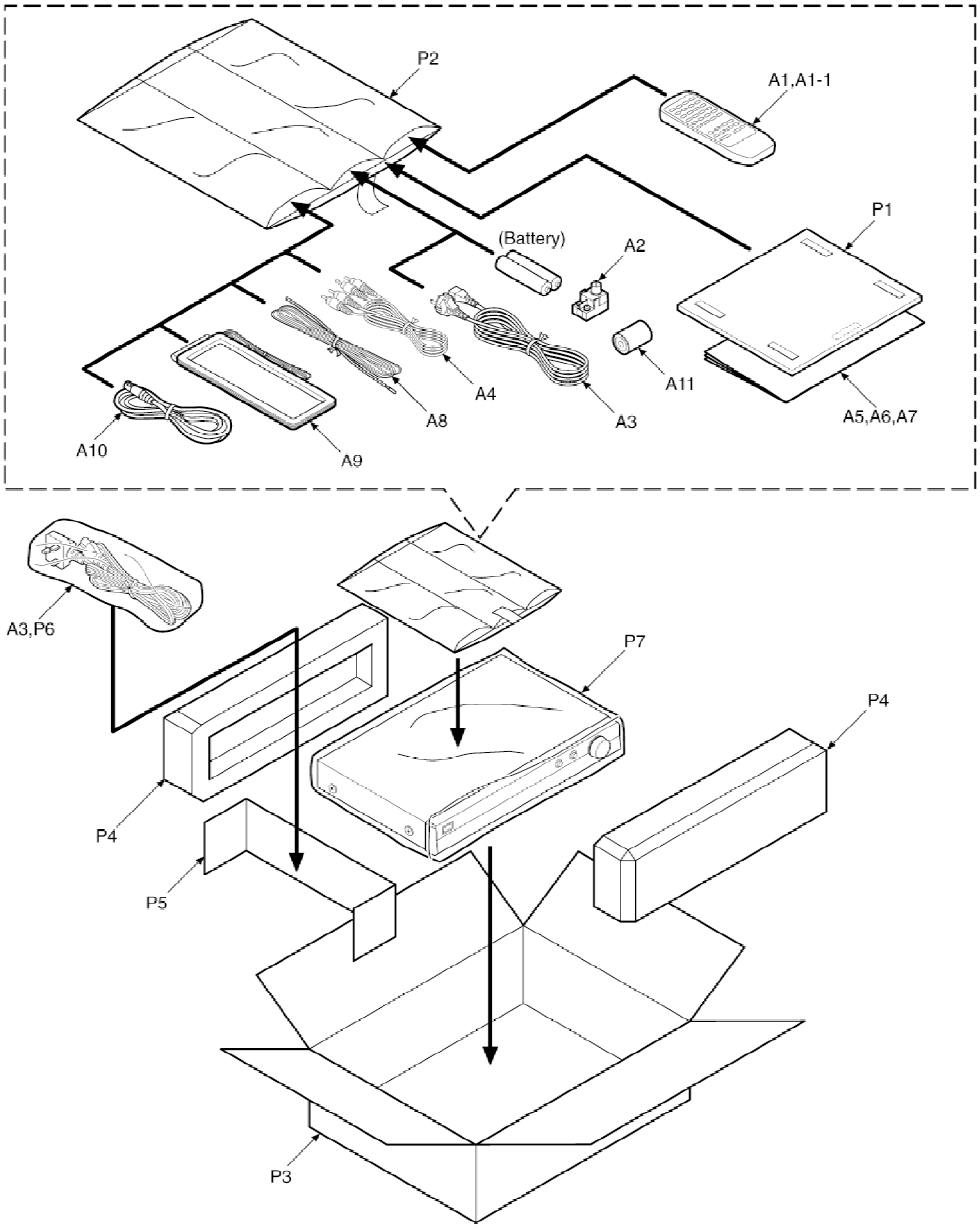


Note: We do not supply those items of parts marked ✻.

TOP PREVIOUS NEXT

14 Packaging

TOP PREVIOUS



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